HAND BOOK

DRAWING

The International Correspondence Schools

SCRANTON, PA.

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SCRANTON, PA.

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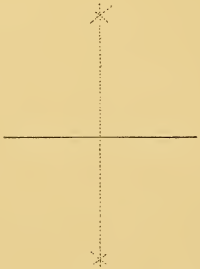
PART I

MECHANICAL DRAWING

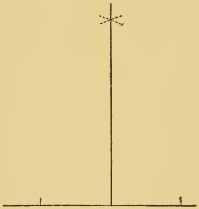
PLATE I

PROBLEM 1: To bisect a straight line

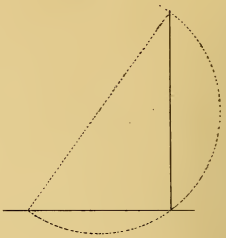


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

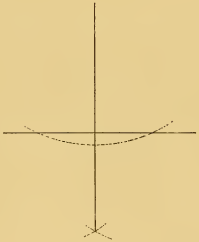


CASE II

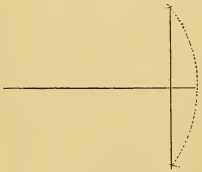


PROBLEM 3: To draw a perpendicular to a straight line from a point without it

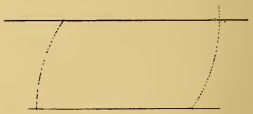
CASE I.



CASE II.



PROBLEM 4. Through a given point to draw a straight line parallel to a given straight line

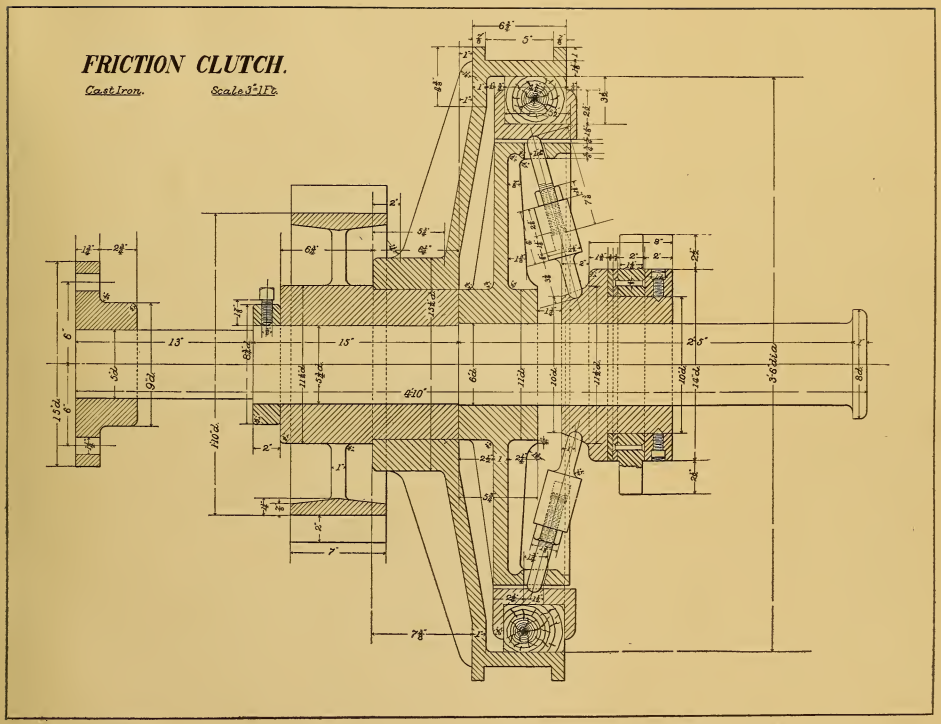


AUG. 3. 1894

VINCENT A. CLARKE CLASS No C 587

Photograph of Plate Drawn by Vincent A. Clarke, C. 587, Machinist, Age 29,
2705 Berks Street, Fairmont Station, Philadelphia, Pa.

PLATE XIX



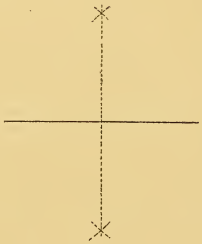
ÓCT. 22, 1894.

VINCENT CLARKE CLASS Nº C 587.

Photograph of Plate Drawn by Vincent A. Clarke, C. 587, Machinist, Age 29,
2705 Berks Street, Fairmont Station, Philadelphia, Pa.

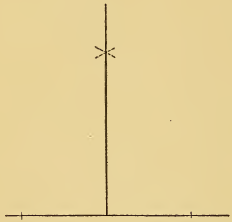
PLATE I

PROBLEM 1: To Bisect a straight line.

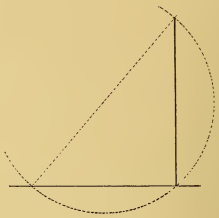


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE 1

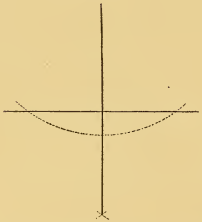


CASE 2

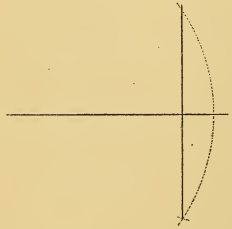


PROBLEM 3: To draw a perpendicular to a straight line from a point without it

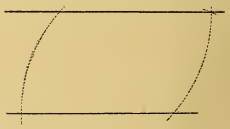
CASE 1



CASE 2



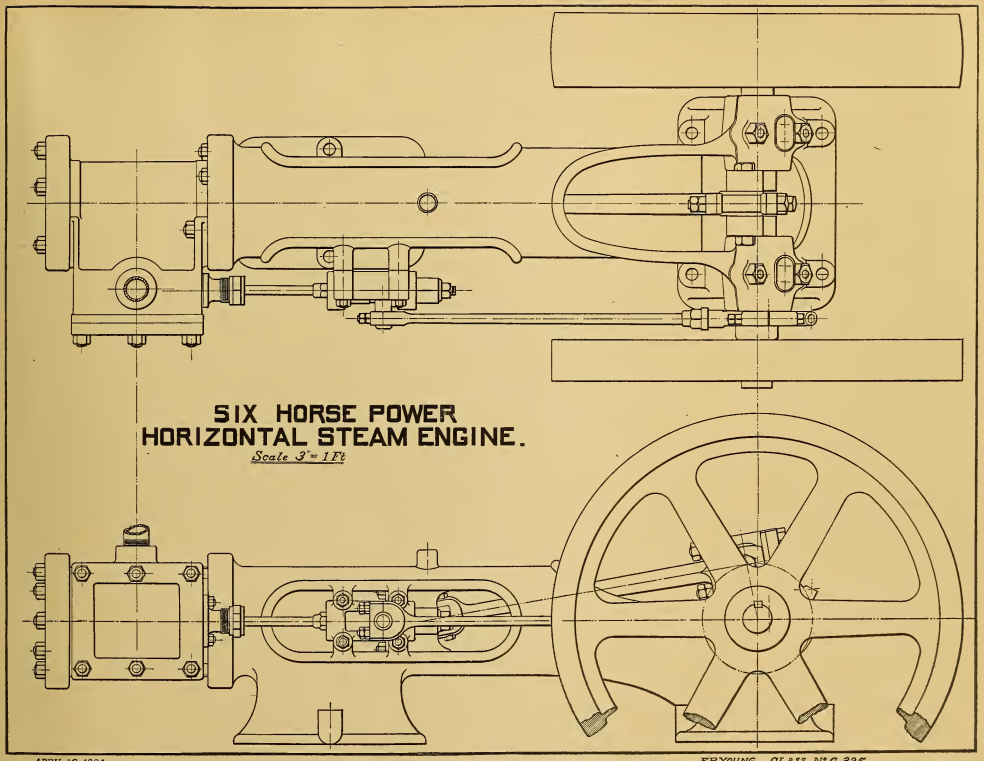
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



SEPTEMBER 25 1893.

E.R. YOUNG. CLASS No S of M 225

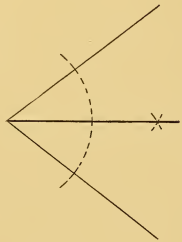
Photograph of Plate Drawn by E. R. Young, C. 225, Machinist, Age 25,
72 Plymouth Street, Cleveland, Ohio.



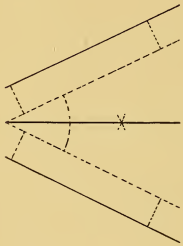
Photograph of Plate Drawn by E. R. Young, C. 225, Machinist, Age 25,
72 Plymouth Street, Cleveland, Ohio.

PLATE II.

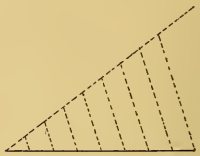
To bisect a given angle.
CASE I.



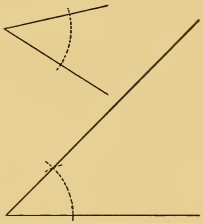
To bisect a given angle.
CASE II.



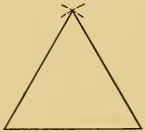
To divide a given straight line into any required number of equal parts.



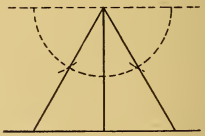
To draw a straight line through any given point on a given straight line to make any required angle with that line.



To draw an equilateral triangle, one side being given.



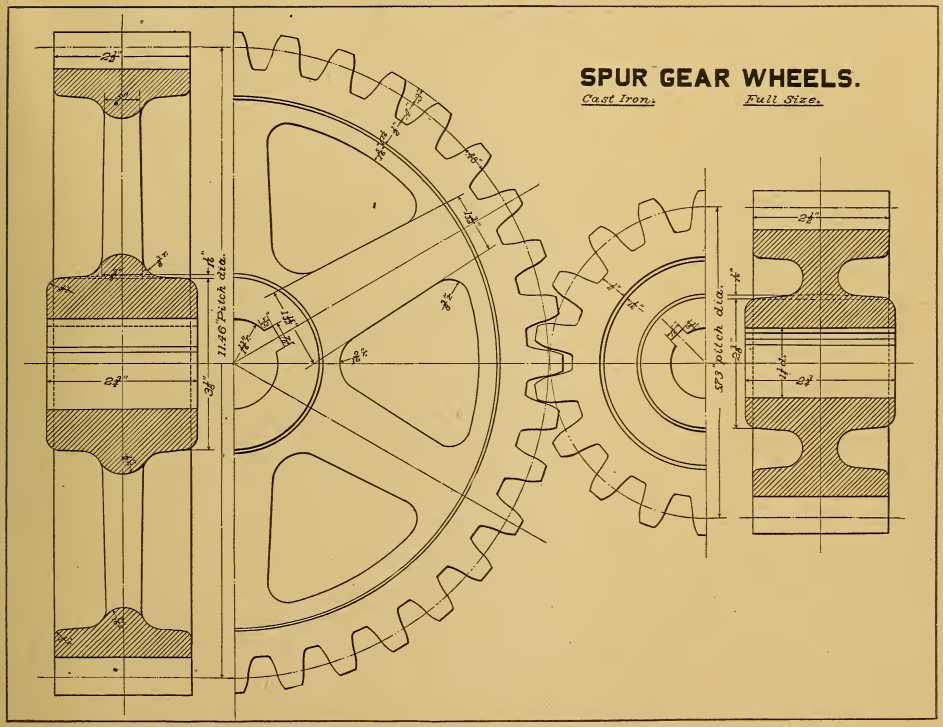
The altitude of an equilateral triangle being given, to draw the triangle.



FEBRUARY 3, 1896.

J. F. Johnson, CLASS No 2333.

Photograph of Plate Drawn by J. F. Johnson, C. 2333, Machinist, Age 28,
46 Catharine Street, Worcester, Mass.



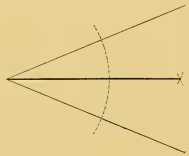
APRIL 10, 1897.

J. F. JOHNSON, CLASS C. No. 2333.

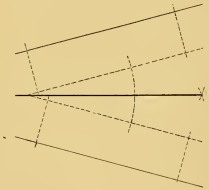
Photograph of Plate Drawn by J. F. Johnson, C. 2333, Machinist, Age 28,
46 Catharine Street, Worcester, Mass.

PLATE II.

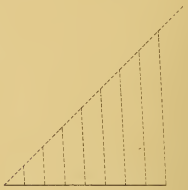
PROBLEM 5. To bisect a given angle CASE I.



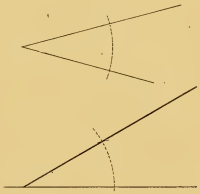
PROBLEM 5. To bisect a given angle CASE II.



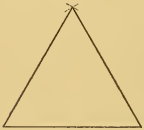
PROBLEM 6. To divide a given straight line into any required number of equal parts.



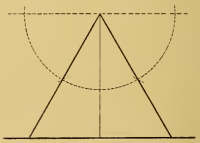
PROBLEM 7. To draw a straight line through any given point on a given straight line to make any required angle with that line.



PROBLEM 8. To draw an equilateral triangle one side being given.

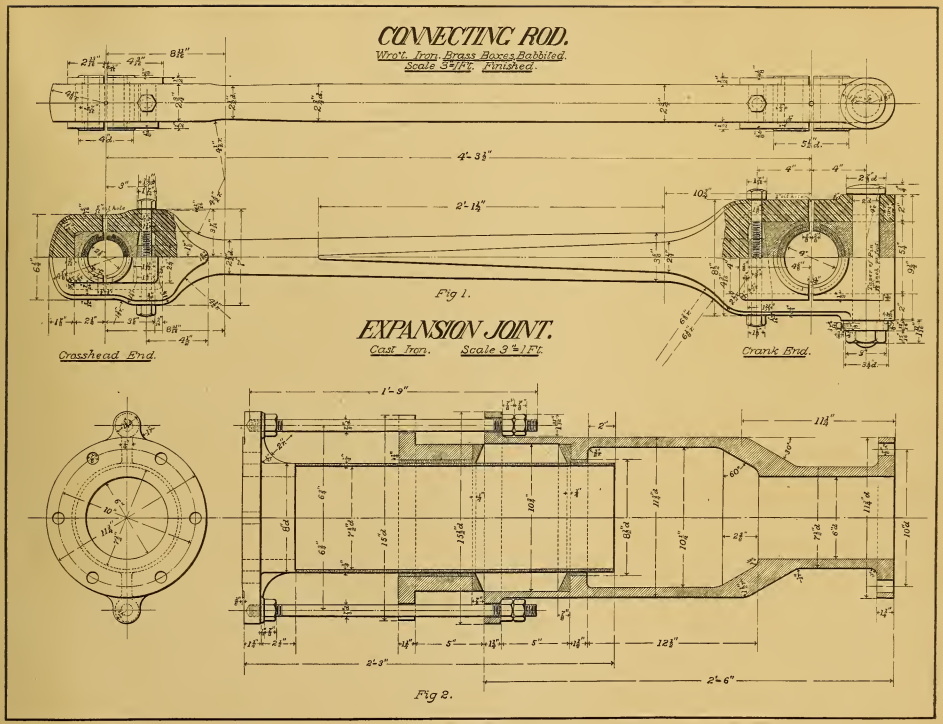


PROBLEM 9. The altitude of an equilateral triangle being given to draw the triangle.



SEPTEMBER 10 1894. J.G.PHILLIPS Class No. C 329.

Photograph of Plate Drawn by J. G. Phillips, C. 329, Machinist, Age 29,
33 Eureka Street, Pittsburg, Pa.



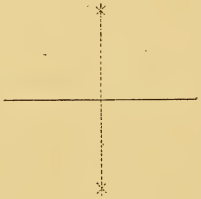
DECEMBER 26. 1894

J. G. PHILLIPS Class № C 329.

Photograph of Plate Drawn by J. G. Phillips, C. 329, Machinist, Age 29,
33 Eureka Street, Pittsburg, Pa.

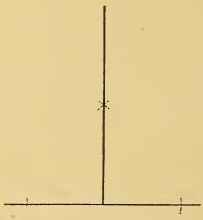
PLATE I.

PROBLEM I: To bisect a straight line.

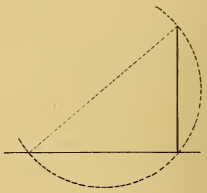


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

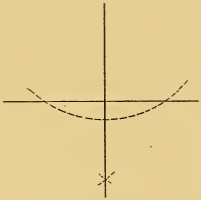


CASE II.

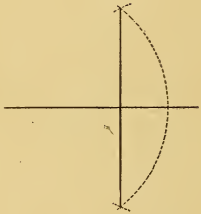


PROBLEM 3: To draw a perpendicular to a straight line from a without it.

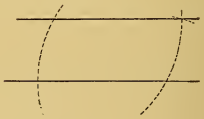
CASE I.



CASE II.



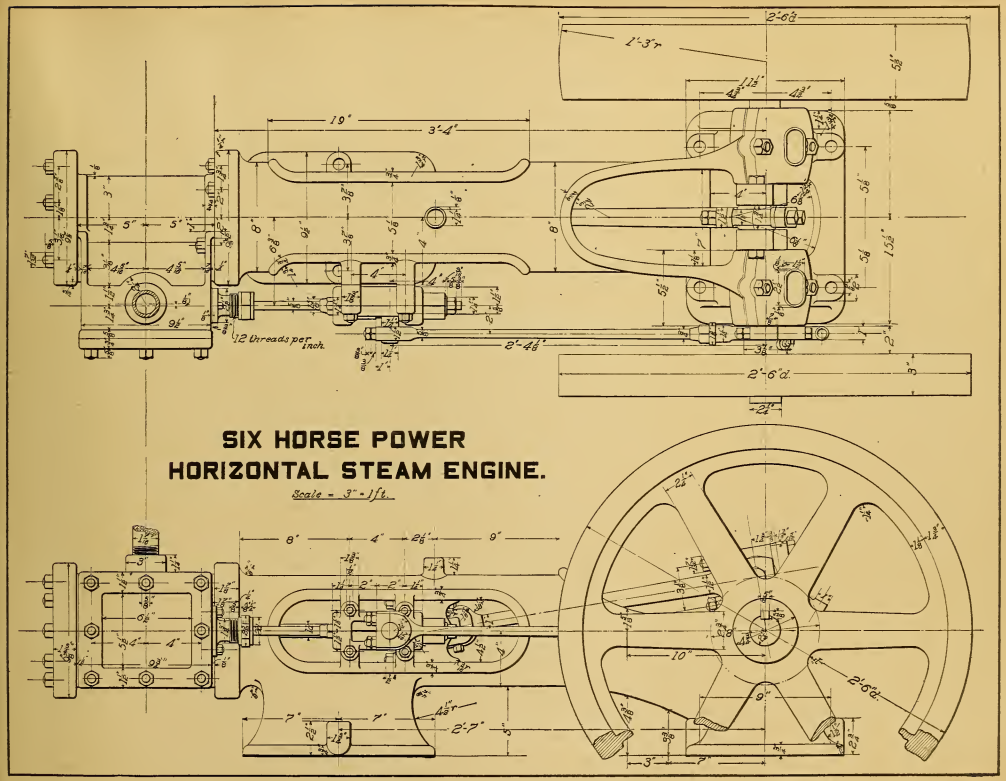
PROBLEM 4: Through a given point to draw a straight line parallel to a given staight line.



OCT. 8 1896.

JOHN EDGAR CLASS NO. C 3614.

Photograph of Plate Drawn by John Edgar, C. 3614, Asst. Millwright, Age 17,
Box 205, Windsor, Ontario, Canada.



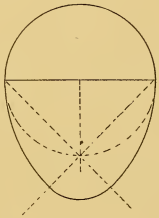
JULY 17. 1897.

JOHN EDGAR. Class No. C. 3614.

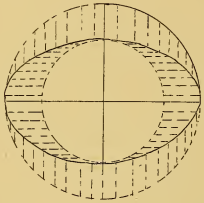
Photograph of Plate Drawn by John Edgar, C. 3614, Asst. Millwright, Age 17,
Box 205, Windsor, Ontario, Canada.

PLATE V.

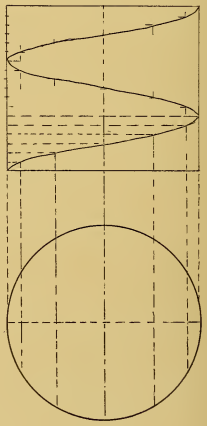
PROBLEM 22 To draw an egg shaped oval.



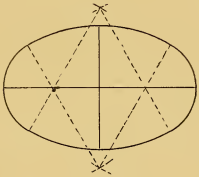
PROBLEM 23 To draw an ellipse the diameters being given.



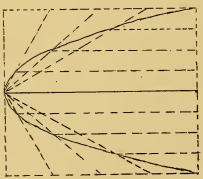
PROBLEM 26. To draw a helix, the pitch and the diameter being given.



PROBLEM 24. To draw an ellipse with circular arcs.



PROBLEM 25. To draw a parabola, the axis and longest double ordinate being given.

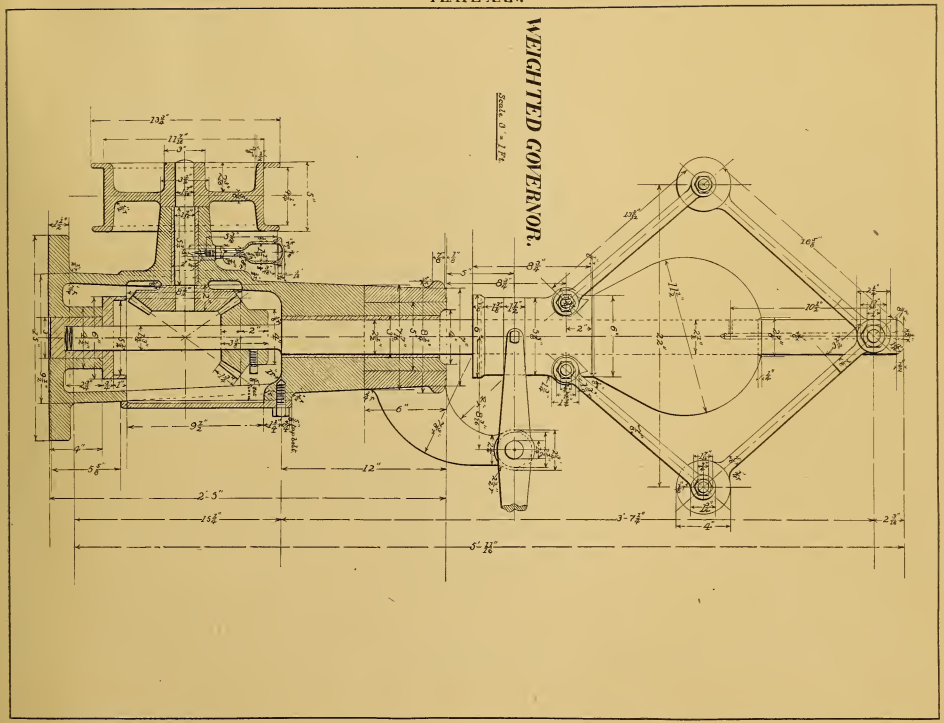


JUNE 16. 1895.

G.T.HACKLEY, CLASS No 879.

Photograph of Plate Drawn by G. T. Hackley, C. 879, Machinist, Age 16, Cazenovia, N. Y.

PLATE XXIV.



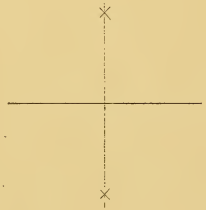
FEBRUARY 21 1896.

C. HACKLEY. C. 879.

Photograph of Plate Drawn by G. T. Hackley, C. 879, Machinist, Age 16, Cazenovia, N. Y.

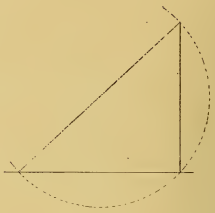
PLATE I.

PROBLEM 1: To bisect a straight line

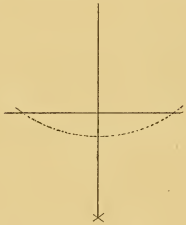


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line
CASE I.

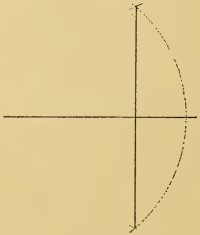
CASE II.



PROBLEM 3: To draw a perpendicular to a straight line from a given point without it
CASE I.



CASE II.

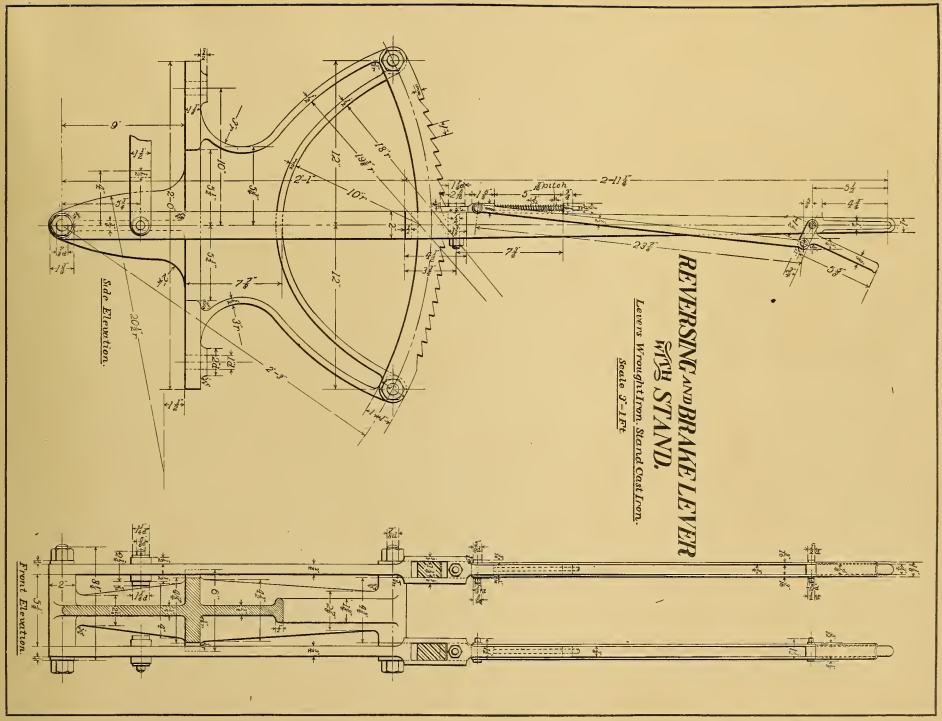


PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line

JUNE 9 1894

GEORGE FOUTS CLASS № 68.

Photograph of Plate Drawn by George Fouts, C. 68, Carpenter, Age 30,
520 Moxahala Avenue, Zanesville, Ohio.



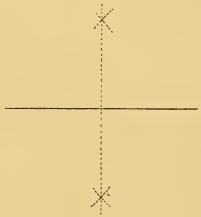
FEBUARY 15 1895.

GEORGE FOUTS. CLASS No C.68.

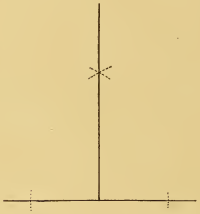
Photograph of Plate Drawn by George Fouts, C. 68, Carpenter, Age 30,
520 Moxahala Avenue, Zanesville, Ohio.

PLATE 1.

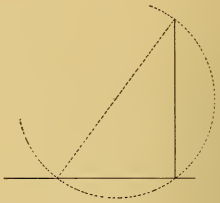
PROBLEM 1: To bisect a straight line.



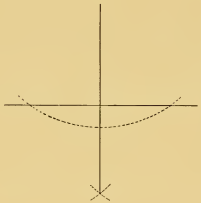
PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.
CASE I.



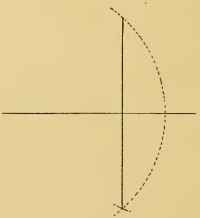
CASE II.



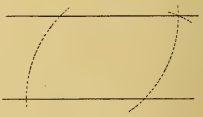
PROBLEM 3: To draw a perpendicular to a straight line from a point without it.
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

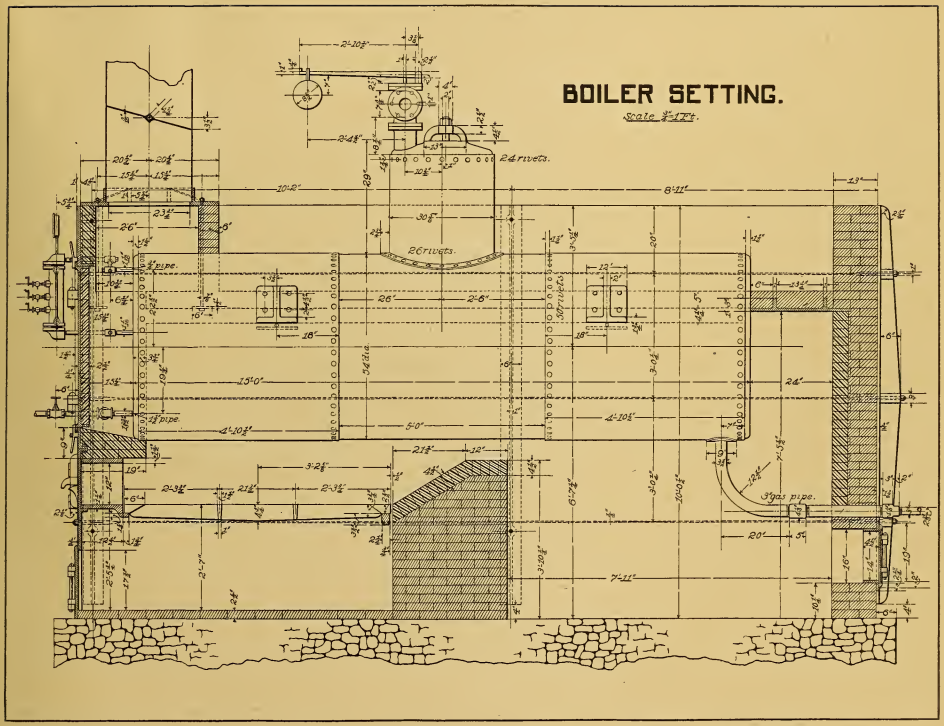


JULY 26, 1895.

C.W. JOHNSON, CLASS No. MD. 462.

Photograph of Plate Drawn by C. W. Johnson, C. 2666, Age 19,
140 W. Mahoning Street, Danville, Pa.

PLATE XXIV.



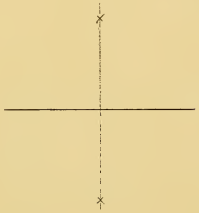
MAR. 21, 1896.

C.W. JOHNSON. CLASS No. C2666.

Photograph of Plate Drawn by C. W. Johnson, C. 2666, Age 19,
140 W. Mahoning Street, Danville, Pa.

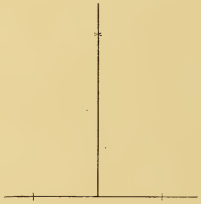
PLATE I

PROBLEM 1: To bisect a straight line.

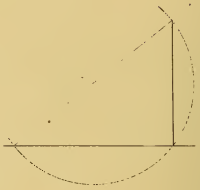


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.



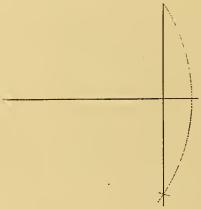
CASE II.



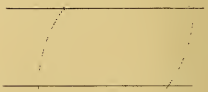
PROBLEM 3 To draw a perpendicular to a straight line from a point without it.

CASE I

CASE II.



PROBLEM 4 Through a given point to draw a straight line parallel to a given straight line.

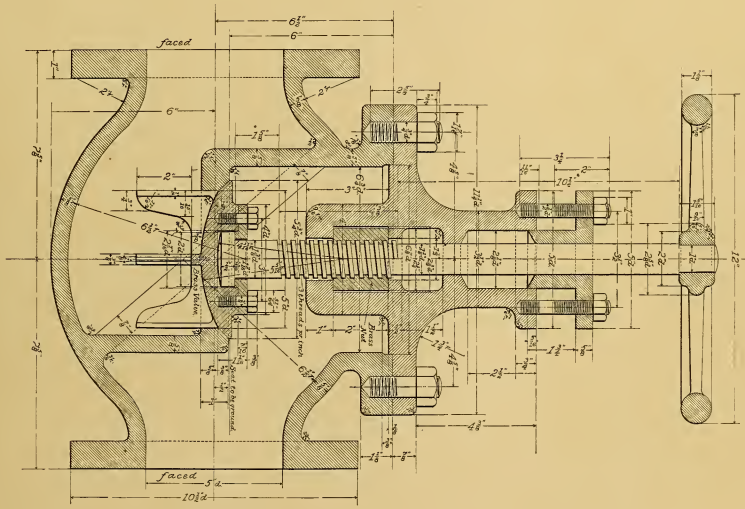


FEBRUARY 26, 1895

JAMES BARELS, CLASS No. C 921

Photograph of Plate Drawn by James Barels, C. 921, Printer, Age 21,
201 W. Fifth Street, Des Moines, Iowa.

PLATE XVII.



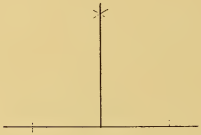
NOVEMBER 11, 1896

JAMES BARELS, CLASS No C 921

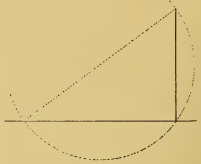
Photograph of Plate Drawn by James Barels, C. 921, Printer, Age 24,
201 W. Fifth Street, Des Moines, Iowa.

PROBLEM I: To bisect a given straight line

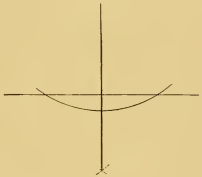
PROBLEM To draw a perpendicular to a straight line from a given point in that line.
CASE I



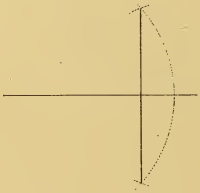
CASE II.



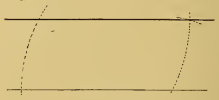
PROBLEM 3: To draw a perpendicular to a straight line from a given point without it.
CASE I.



CASE II



PROBLM 4 Through a given point to draw a straight line parallel to a given straight line

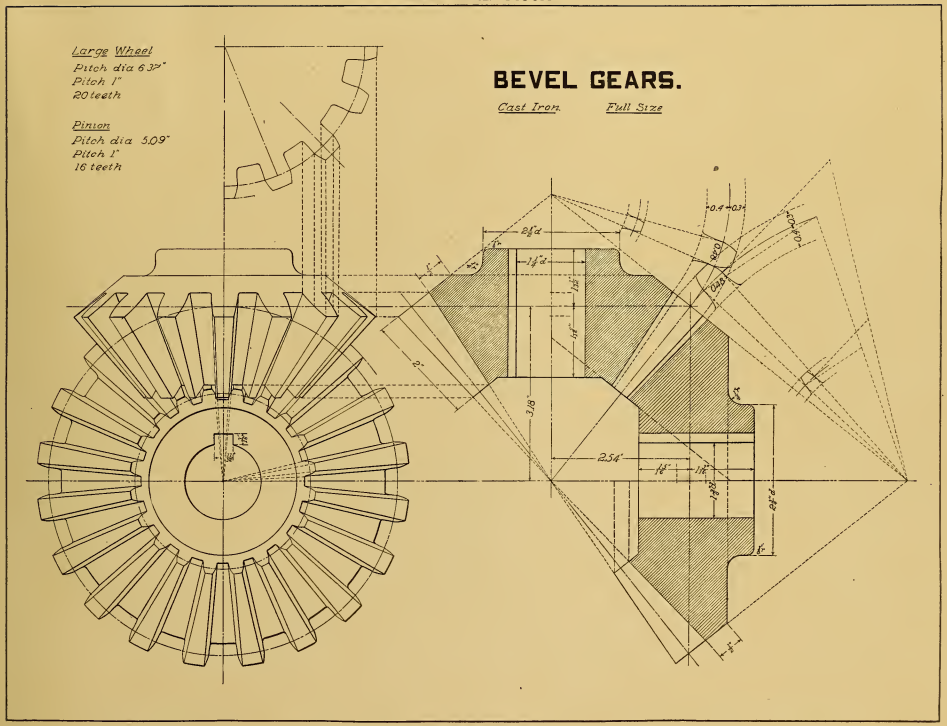


MARCH 6 1896.

GEO K WAGNER. CLASS NOC97.

Photograph of Plate Drawn by Geo. K. Wagner, C. 97, Engineer, Age 22,
Box 18, Watsontown, Pa.

PLATE XXI.

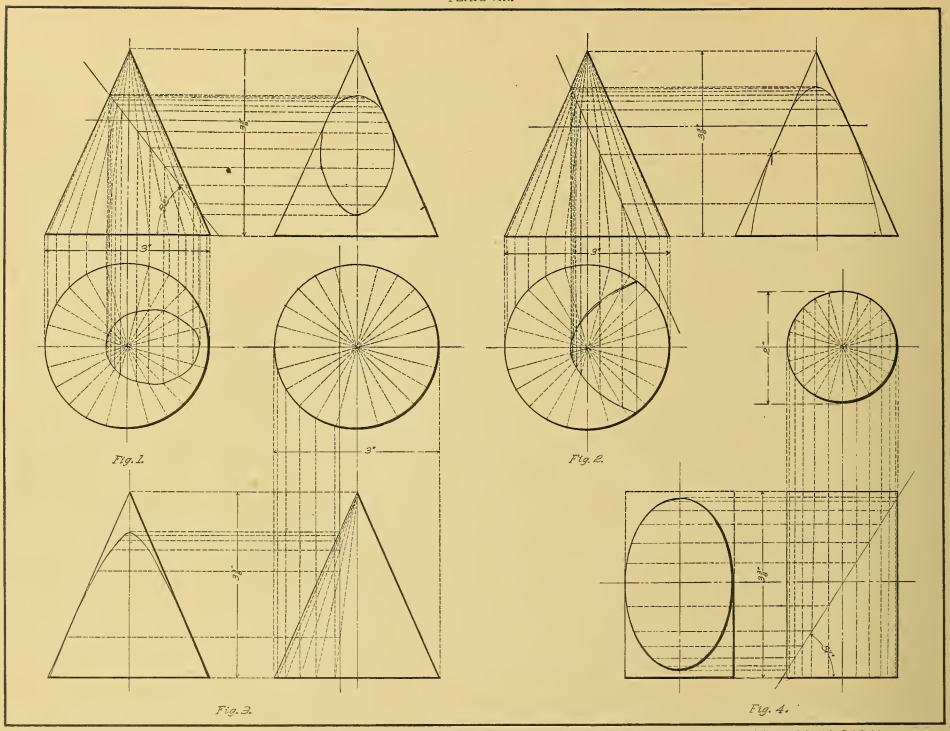


MARCH 31 1897.

GEO K WAGNER. CLASS M C 97.

Photograph of Plate Drawn by Geo. K. Wagner, C. 97, Engineer, Age 22,
Box 18, Watsontown, Pa.

PLATE VIII.

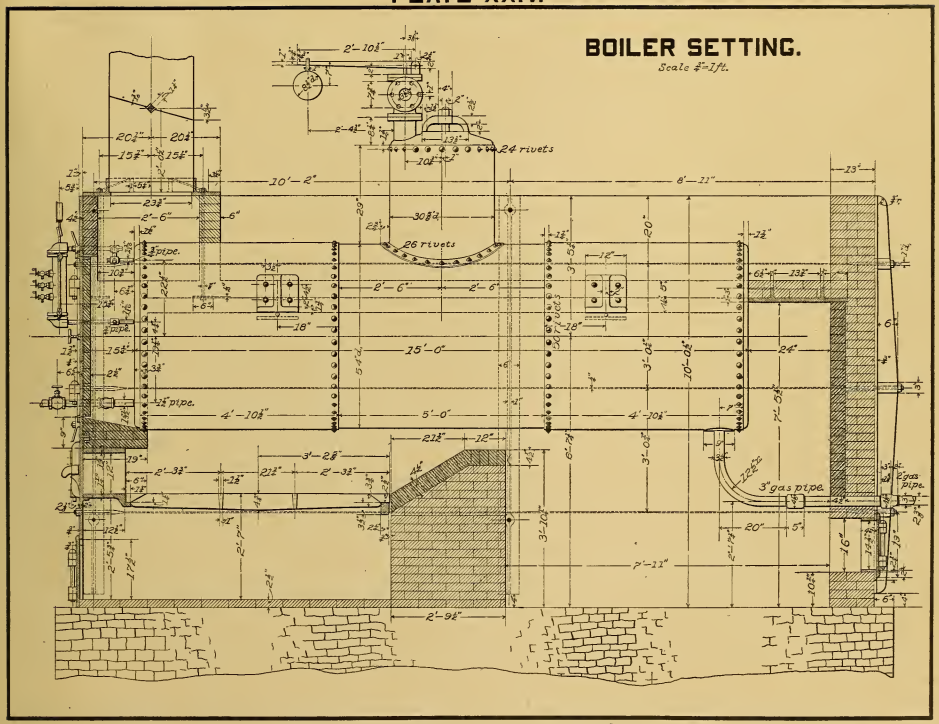


FEBRUARY 21, 1896.

O. S. PIKE, CLASS. No. C 1548.

Photograph of Plate Drawn by O. S. Pike, C. 1548, Farmer, Age 25, New Lisbon, Ohio.

PLATE XXIV.



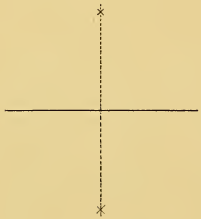
MARCH 15, 1896.

O. S. PIKE CLASS No. C 1548.

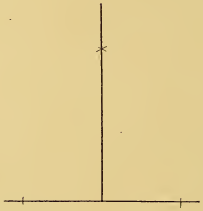
Photograph of Plate Drawn by O. S. Pike, C. 1548, Farmer, Age 25, New Lisbon, Ohio.

PLATE I

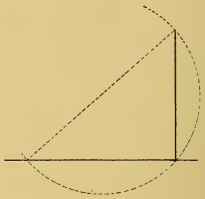
PROBLEM 1: To bisect a straight line



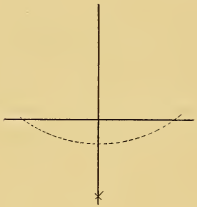
PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.
CASE I.



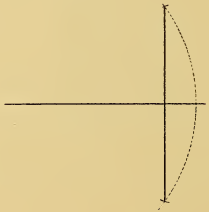
CASE II.



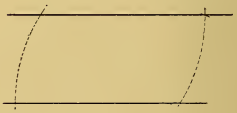
PROBLEM 3: To draw a perpendicular to a straight line from a point without it.
CASE I.



CASE II.



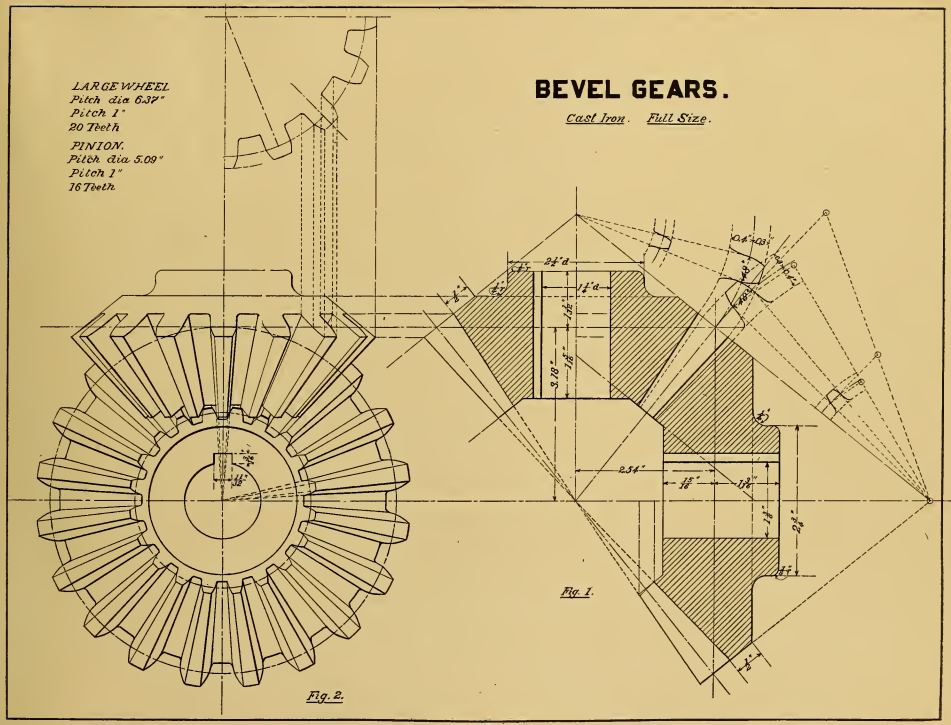
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line



SEPTEMBER 12 1896.

FRED. KUHLMANN. CLASS No 2597.

Photograph of Plate Drawn by Fred. Kuhlmann, C. 2597, Machinist, Age 31,
880 N. Campbell Avenue, Chicago, Ill.



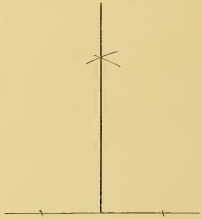
MAY 21. 1897. FRED. KUHLMANN. CLASS № C. 2597

Photograph of Plate Drawn by Fred. Kuhlmann, C. 2597, Machinist, Age 31,
880 N. Campbell Avenue, Chicago, Ill.

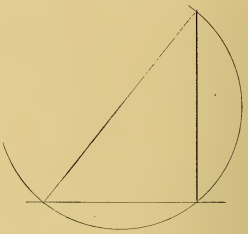
PROBLEM 1: To bisect a straight line

PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line

CASE I.

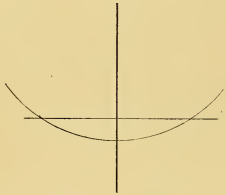


CASE II.

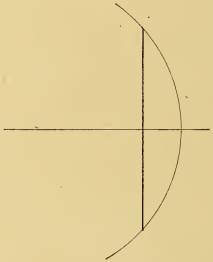


PROBLEM 3: To draw a perpendicular to a point without it

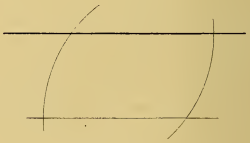
CASE I



CASE II.



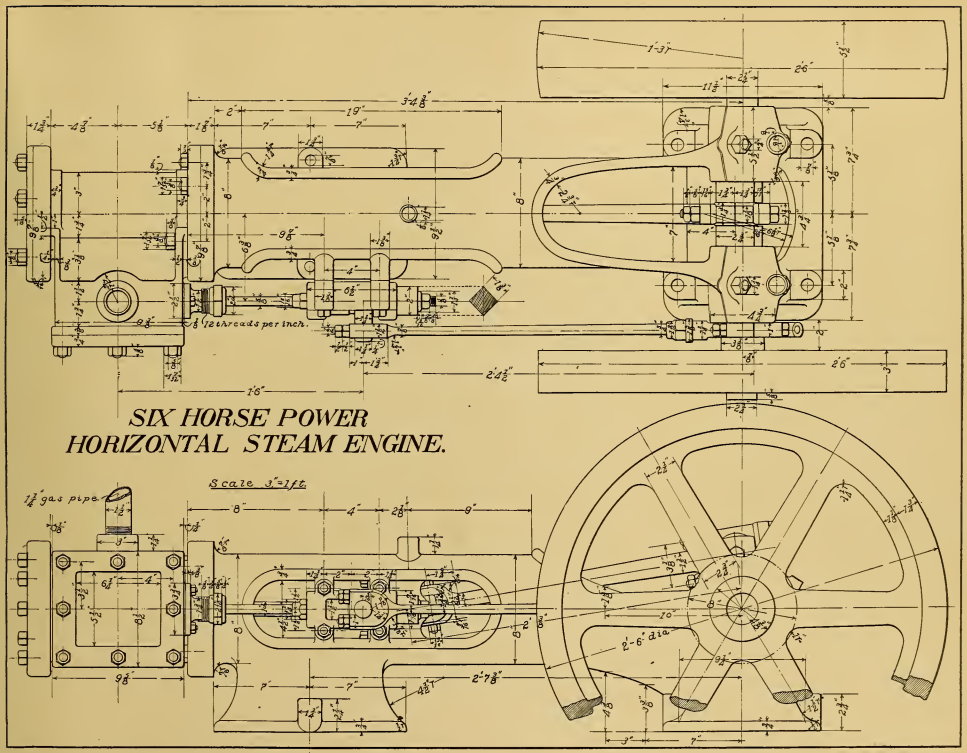
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line



MAY. 18. 1898.

Fred Krainik, CLASS. No. 782.

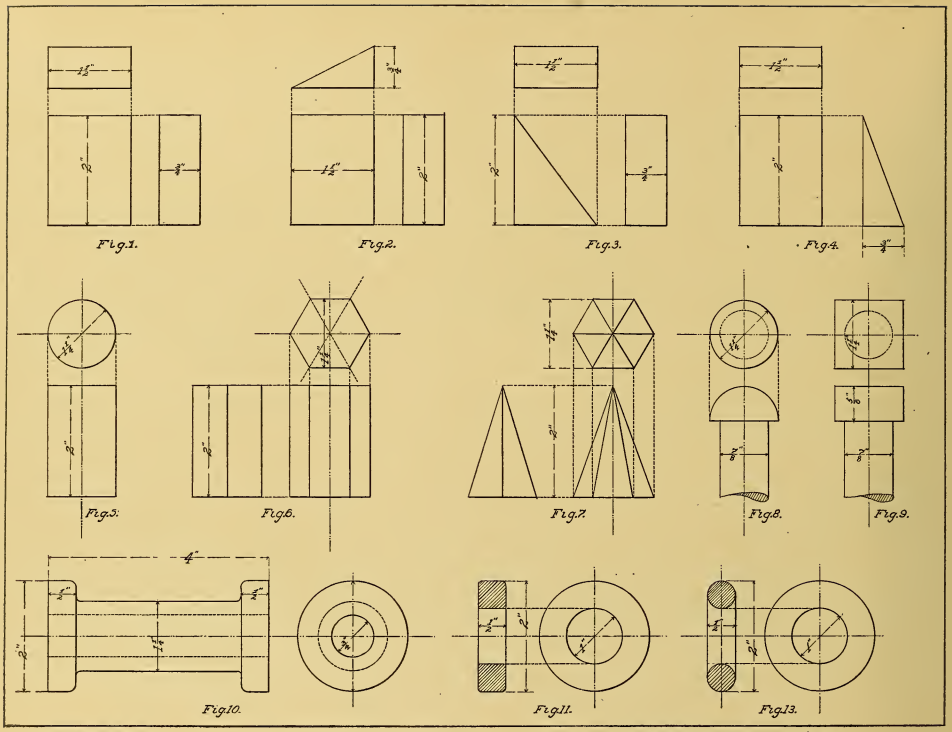
Photograph of Plate Drawn by Fred. Krainck, C. 782, Machinist, Age 20,
Box 687, 914 N. Eighth Street, Manitowoc. Wis.



OCTOBER 31, 1895. FRED KRAINEK, CLASS, No. C, 782.

Photograph of Plate Drawn by Fred. Krainek, C. 782, Machinist, Age 20,
Box 687, 914 N. Eighth Street, Manitowoc, Wis.

PLATE VI.

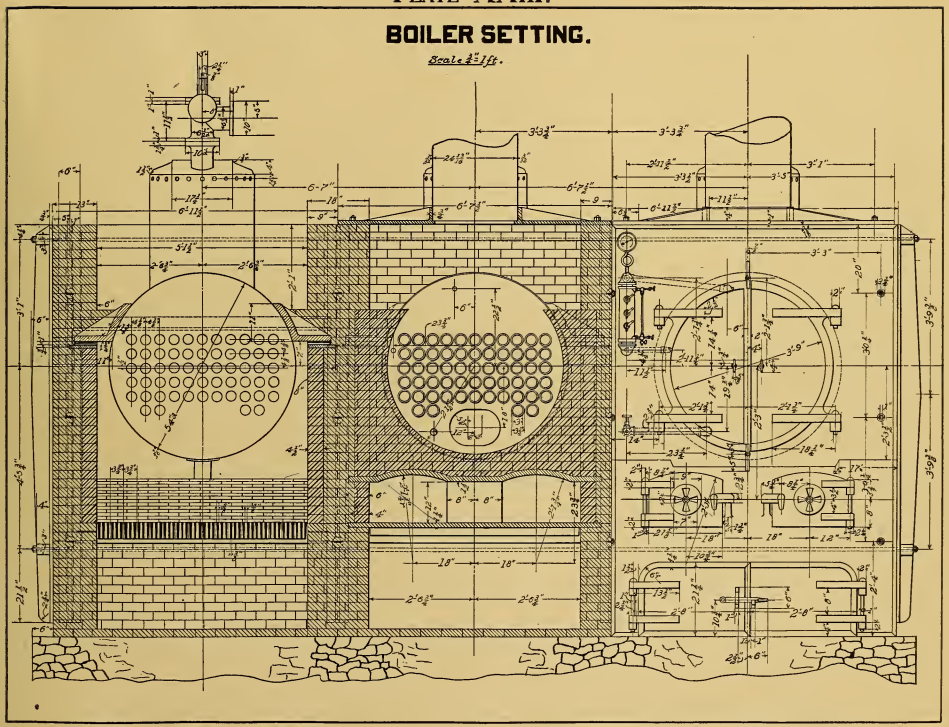


NOVEMBER 13, 1896.

CHARLES KUDERER, CLASS No C 417.

Photograph of Plate Drawn by Chas. Kuderer, C. 417, Machinist, Age 20,
40 West Second Street, Elizabethport, N. J.

Plate XXIII.



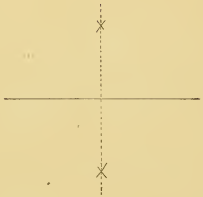
FEBRUARY 17, 1897.

CHARLES KUDERER, CLASS No C 417.

Photograph of Plate Drawn by Chas. Kuderer, C. 417, Machinist, Age 20,
40 West Second Street, Elizabethport, N. J.

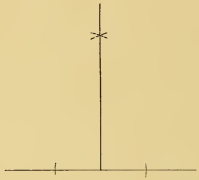
PLATE I

PROBLEM 1: To bisect a straight line.

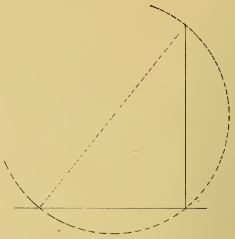


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I

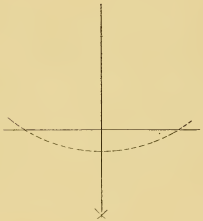


CASE II

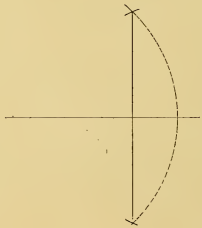


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

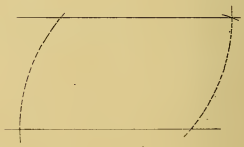
CASE I



CASE II



PROBLEM 4. Trough a given point to draw a straight line parallel to a given straight line.

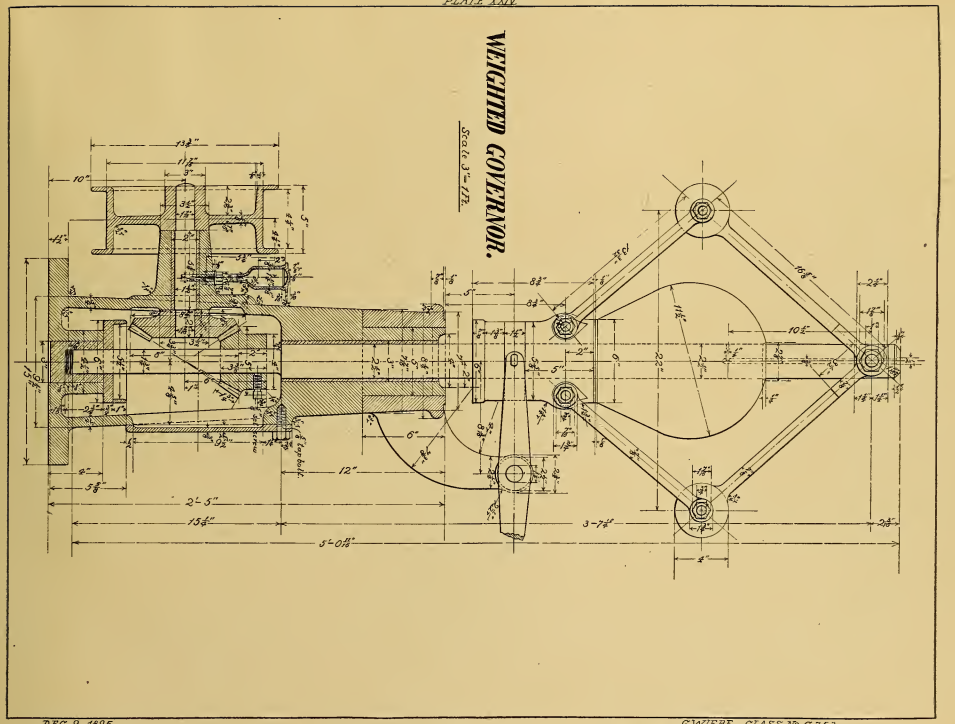


NOVEMBER 5 1894

G. Wiebe Class C 753.

Photograph of Plate Drawn by G. Wiebe, Jr., C. 753, Engineer and Fireman, Age 24, Box 48, Halstead, Kan.

PLATE XXIV.

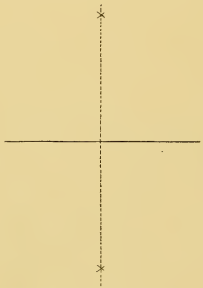


DEC. 9 1895.

G. WIEBE CLASS No C 753.

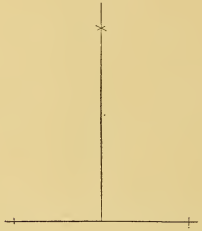
Photograph of Plate Drawn by G. Wiebe, Jr., C. 753, Engineer and Fireman, Age 21, Box 48, Halstead, Kan.

PROBLEM I.—To bisect a given straight line

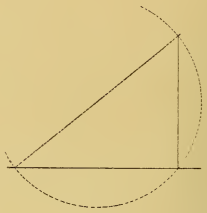


PROBLEM 2.—To draw a perpendicular to a straight line from a given point in that line:

Case I.

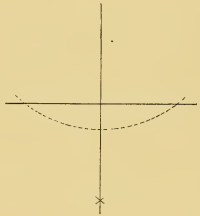


Case II.

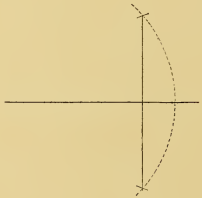


PROBLEM 3: To draw a perpendicular to a straight line from a given point without it:

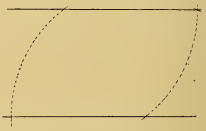
Case I.



Case II.



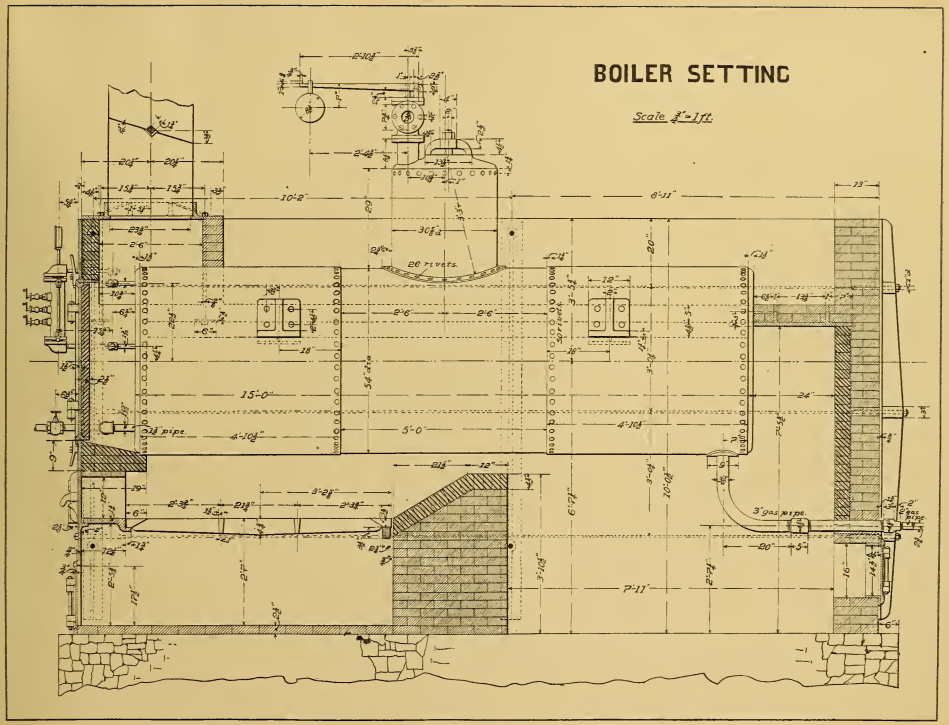
PROBLEM 4.—Through a given point to draw a straight line parallel to a given straight line



FEBRUARY 17, 1896

JOHN LLOYD CLASS No 526

Photograph of Plate Drawn by John Lloyd, M. D. 526, Machinist, Age 32,
58 Dana Street, Wilkes-Barre, Pa.

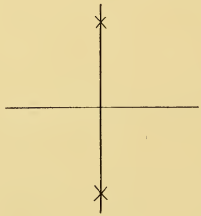


JANUARY 20 1897. JOHN LLOYD. CLASS PATTED 526

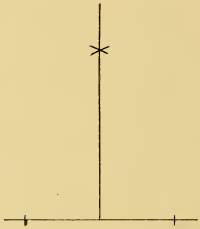
Photograph of Plate Drawn by John Lloyd, M. D. 526, Machinist, Age 32,
58 Dana Street, Wilkes-Barre, Pa.

PLATE 1.

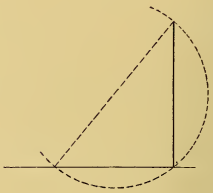
PROBLEM 1: To bisect a given straight line:



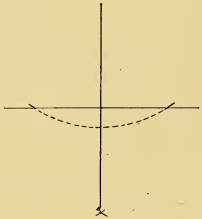
PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line:
CASE I.



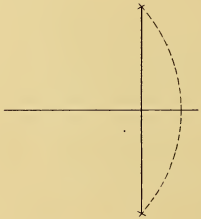
CASE II.



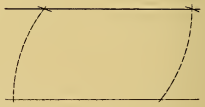
PROBLEM 3: To draw a perpendicular to a straight line from a given point without it:
CASE I.



CASE II.



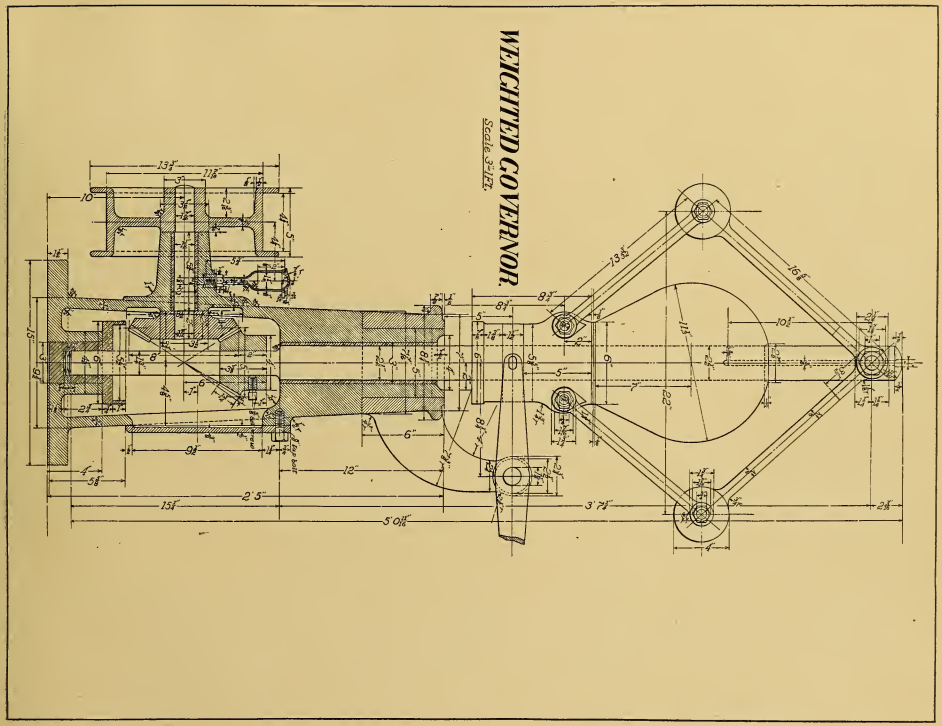
PROBLEM 4: Through a given point to draw a straight line parallel to a givn straight line:



NOV 11, 1895.

EDWIN F CONRAD, CLASS Nº 487.

Photograph of Plate Drawn by E. F. Conrad, M. D. 187, Patternmaker, Age 86,
Bremen, Ind.

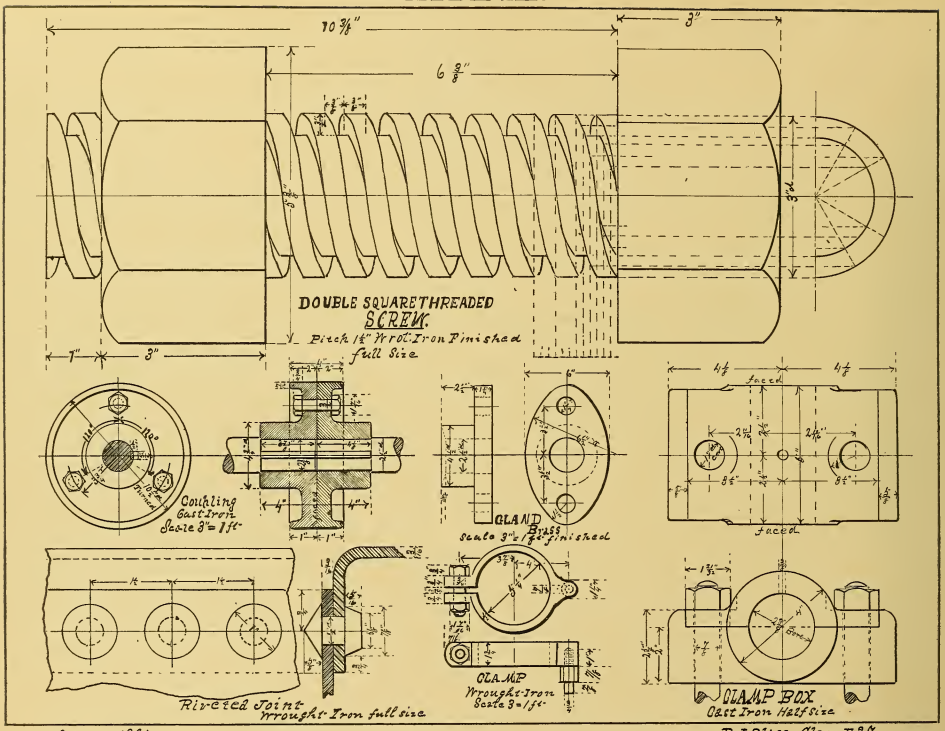


APRIL 16, 1896.

E.F. CONRAD. CLASS No M.D. 487.

Photograph of Plate Drawn by E. F. Conrad, M. D. 487, Patternmaker, Age 36, Bremen, Ind.

PLATE XI.

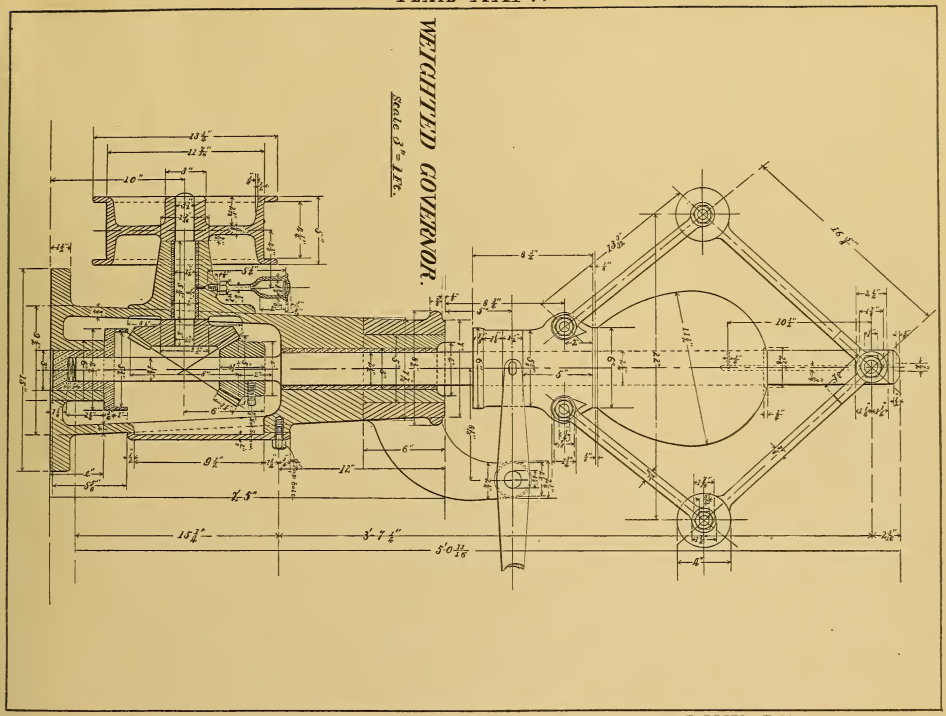


Sept. 11-1894

R. J. Bliss Class E.37.

Photograph of Plate Drawn by R. J. Bliss, E. 37, Mechanical Engineer, Age 40,
Cor. Fifth and Mulberry Streets, Wilmington, N. C.

PLATE XXIV.



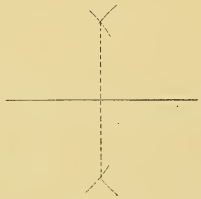
NOV 24-1894.

R. J. BLISS. E-37.

Photograph of Plate Drawn by R. J. Bliss, E. 37, Mechanical Engineer, Age 40,
Cor. Fifth and Mulberry Streets, Wilmington, N. C.

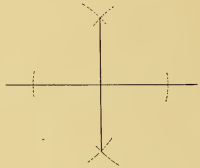
PLATE I.

PROBLEM 1: To bisect a straight line.

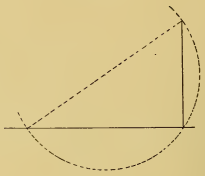


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.



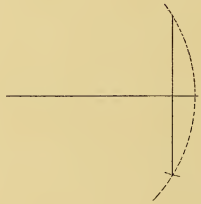
CASE II.



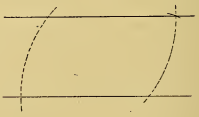
PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

CASE I.

CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

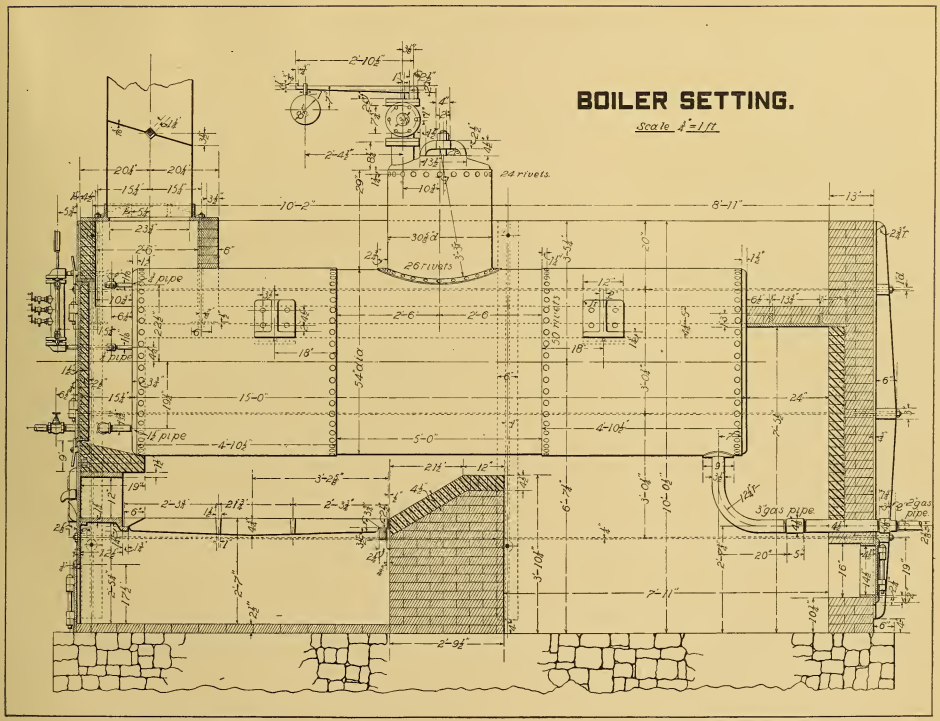


DECEMBER 11, 1895

SAMUEL SNEDEKER, CLASS NO. ME. 78.

Photograph of Plate Drawn by S. E. Snedeker, M. E. 78, Bank Clerk, Age 23, White Plains, N. Y.

PLATE XXIV.

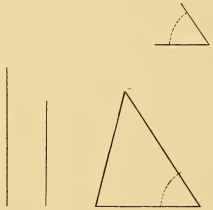


NOVEMBER 19 1896.

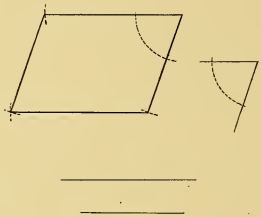
S.E. SNEDEKER, CLASS NO. M.E. 78

Photograph of Plate Drawn by S. E. Snedeker, M. E. 78, Bank Clerk, Age 23,
White Plains, N. Y.

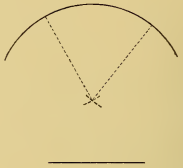
PROBLEM 10: Two sides and the included angle of a triangle being given, to construct the triangle.



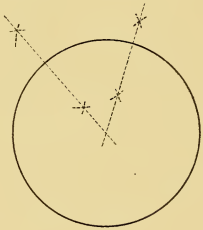
PROBLEM 11: To draw a parallelogram when the sides and one of the angles are given:



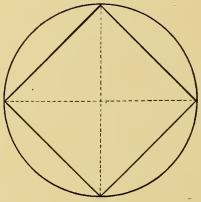
PROBLEM 12: An arc and its radius being given, to find its centre:



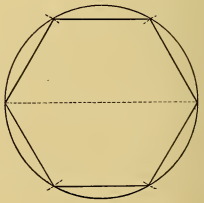
PROBLEM 13: To pass a circumference through any three points not in the same straight line:



PROBLEM 14: To inscribe a square in a given circle:



PROBLEM 15: To inscribe a regular hexagon in a given circle:



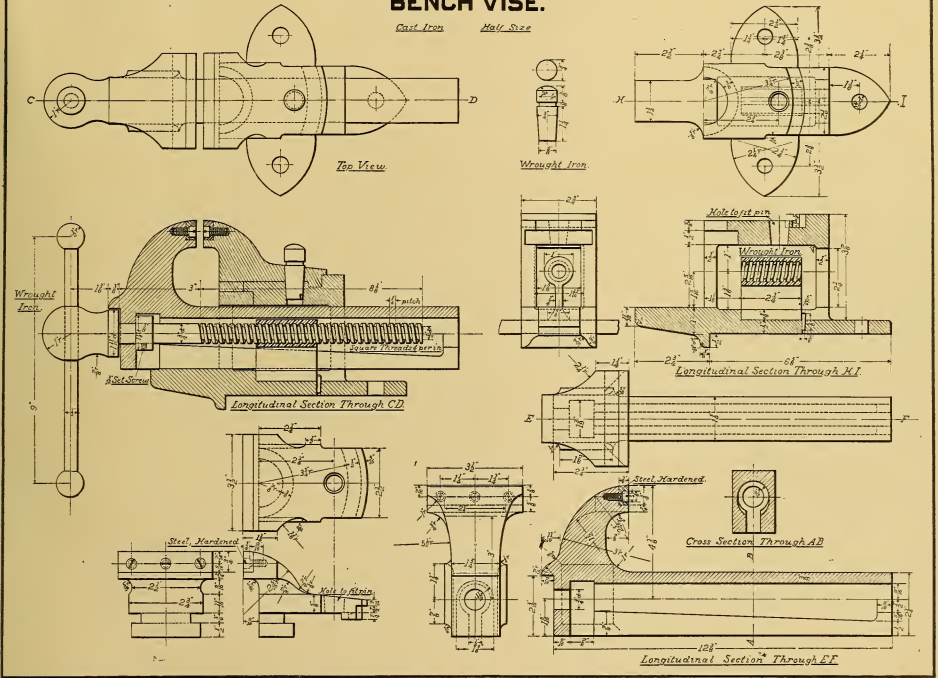
OCTOBER 17, 1896.

E. THOMPSON, CLASS NO. M.E. 1138.

Photograph of Plate Drawn by E. Thompson, M. E. 1138, Clerk, Age 29,
69 Schaeffer Street, Brooklyn, N. Y.

BENCH VISE.

Cast Iron. Half Size



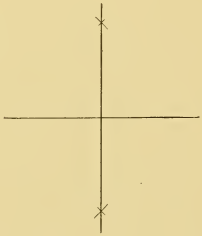
MAY 14 1897

E. THOMPSON CLASS. NO. ME. 1138.

Photograph of Plate Drawn by E. Thompson, M. E. 1138, Clerk, Age 29,
69 Schaeffer Street, Brooklyn, N. Y.

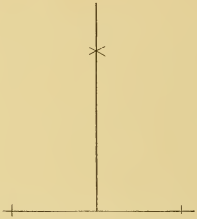
PLATE I.

PROBLEM 1: To bisect a straight line.

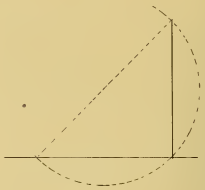


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

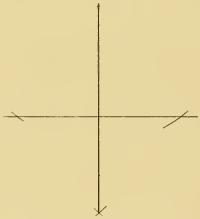


CASE II.

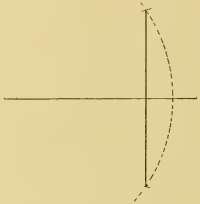


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

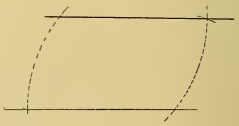
CASE I.



CASE II.



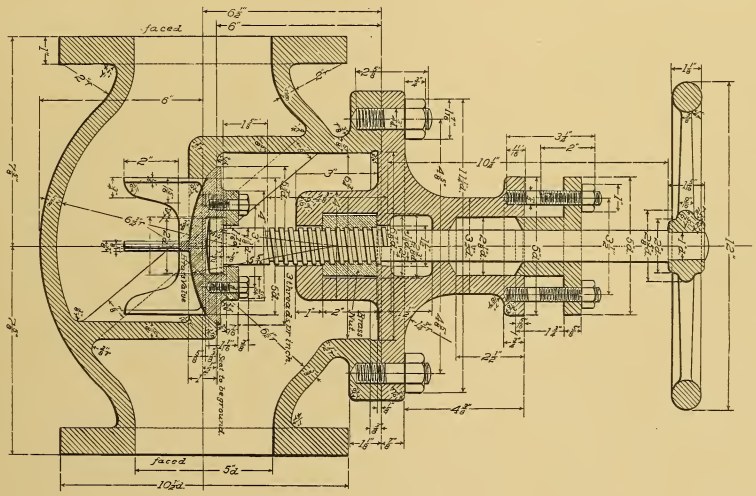
PROBLEM 4: Through a given point to draw a straight line parolel to a given straight line.



APRIL 16, 1895.

A. E. JUDGE, CLASS No M.E. 37.

Photograph of Plate Drawn by A. E. Judge, M. E. 37, Pres. Electric Light Co., Age 45,
533 W. Erwin Street, Tyler, Texas.



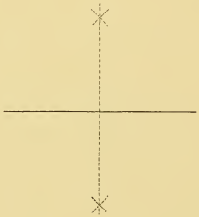
MAY 20, 1897.

A.E. JUDGE, CLASS M.E. 37.

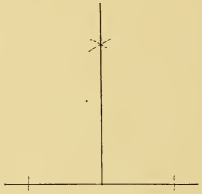
Photograph of Plate Drawn by A. E. Judge, M. E. 37, Pres. Electric Light Co., Age 45,
533 W. Erwin Street, Tyler, Texas.

PLATE 1.

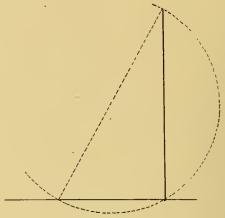
PROBLEM 1: To bisect a staight line.



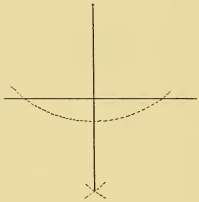
PROBLEM 2: To Draw a perpendicular to a straight line from a given point in that line.
CASE I.



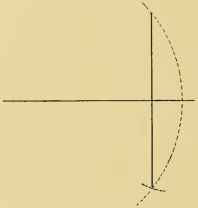
CASE II



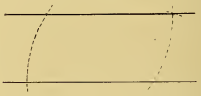
PROBLEM 3: To draw a perpendicular to a straight line from a point without it
CASE I.



CASE II.



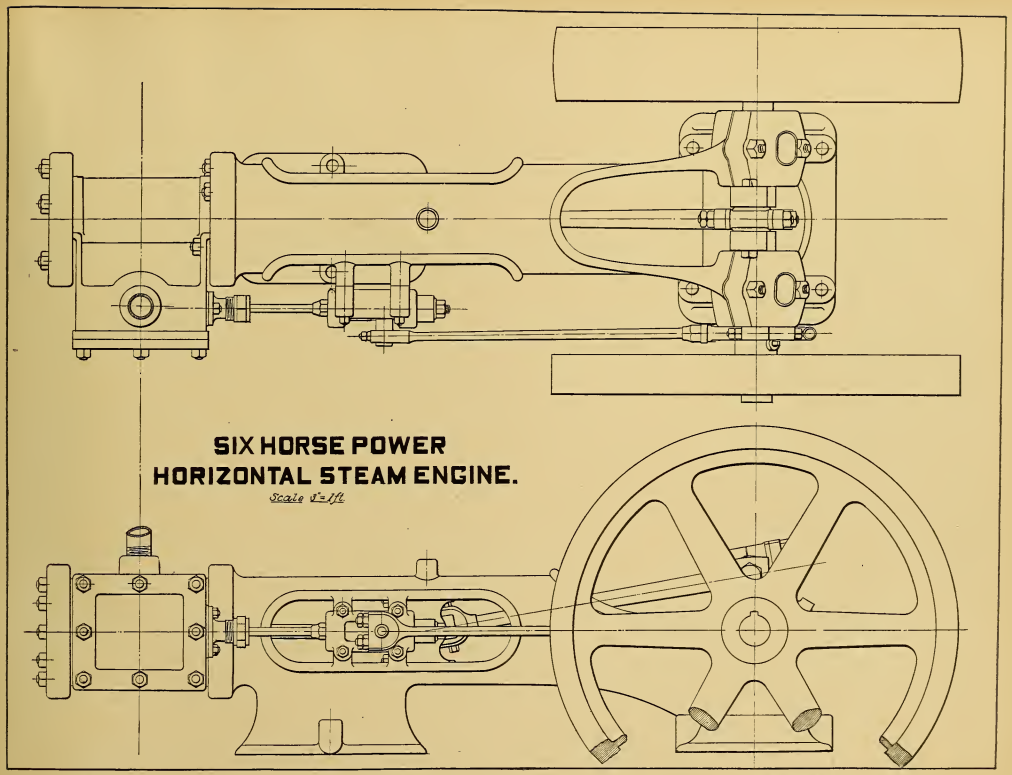
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



NOVEMBER 2, 1896.

F. M. BOWMAN, CLASS No. J 649.

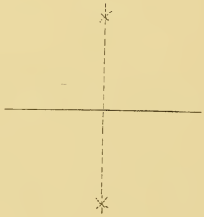
Photograph of Plate Drawn by F. M. Bowman, J. 649, Teacher, Age 34,
Logansport, Ind.



Photograph of Plate Drawn by F. M. Bowman, J. 649, Teacher, Age 31,
Logansport, Ind.

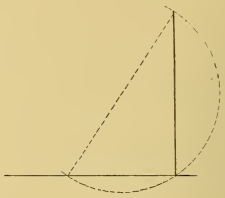
PLATE I.

PROBLEM 1: To bisect a straight line line.

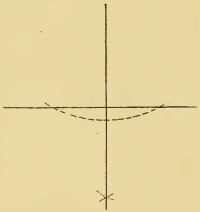


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that
CASE I.

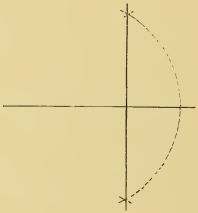
CASE II.



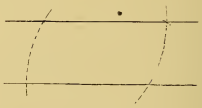
PROBLEM 3: To draw a perpendicular to a straight line from a point without it
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line



December 1. 1896

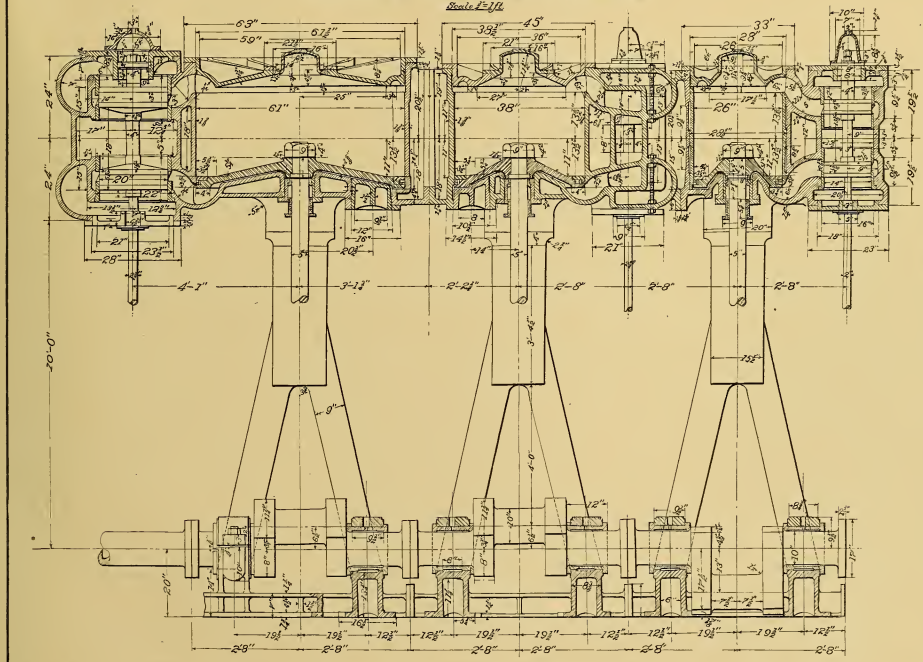
Samuel Murray Class No H 2044

Photograph of Plate Drawn by Samuel Murray, H. 2044, Fireman, Age 27,
U. S. S. "Oregon," Care of Navy Pay Office, San Francisco, Cal.

PLATE XV.

TRIPLE EXPANSION ENGINE.

Scale 1/4



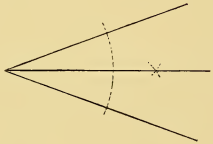
NOVEMBER 12, 1892.

SAMUEL MURRAY, CLASS N° H-2044.

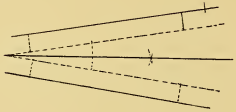
Photograph of Plate Drawn by Samuel Murray, H. 2044, Fireman, Age 27,
U. S. S. "Oregon," Care of Navy Pay Office, San Francisco, Cal.

PLATE 11

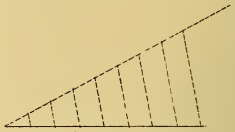
PROBLEM 5: To bisect a given angle. CASE 1.



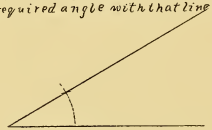
PROBLEM 5: To bisect a given angle



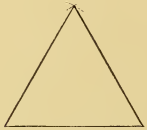
PROBLEM 6: To divide a given straight line into any required number of equal parts



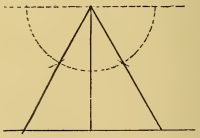
PROBLEM 7: To draw a straight line through any given point on a given straight line to make any required angle with that line



PROBLEM 8: To draw an equilateral triangle, one side being given.



PROBLEM 9: The altitude of an equilateral triangle being given to draw the triangle

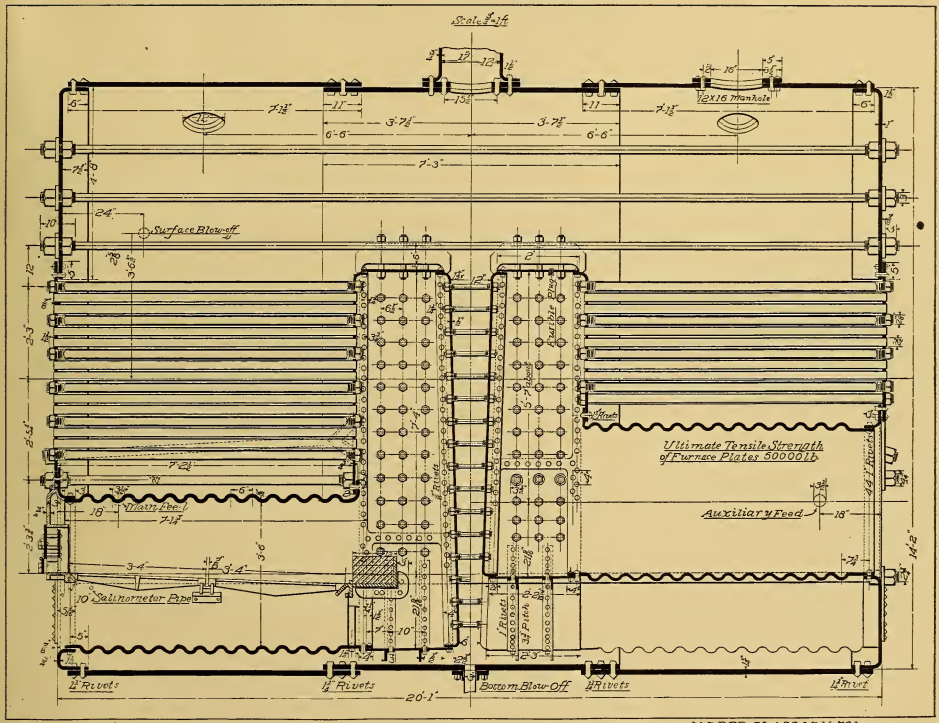


JAN. 9, 1896.

J. A. REED CLASS L F T TR AND NO. H 761.

Photograph of Plate Drawn by J. A. Reed, H. 761, Marine Engineer, Age 27,
41 Natoma Street, San Francisco, Cal.

DOUBLE-ENDED MARINE BOILER.-II



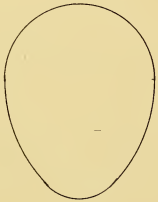
October 27, 1897

JAREED. CLASS No. H-761.

Photograph of Plate Drawn by J. A. Reed, H. 761, Marine Engineer, Age 27, 41 Natoma Street, San Francisco, Cal.

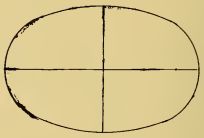
PLATE V.

Problem. 22.— To draw an egg shaped oval



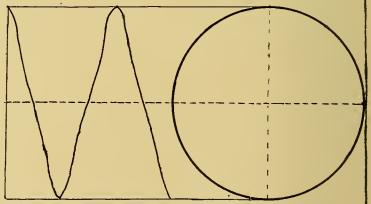
Problem. 23.— To draw an ellipse the diameters being given:

Problem. 24.— To draw an ellipse with circular arcs:



Problem. 25.— To draw a parabola the axis and longest double ordinate being given

Problem. 26.— To draw a helix the pitch and the diameter being given

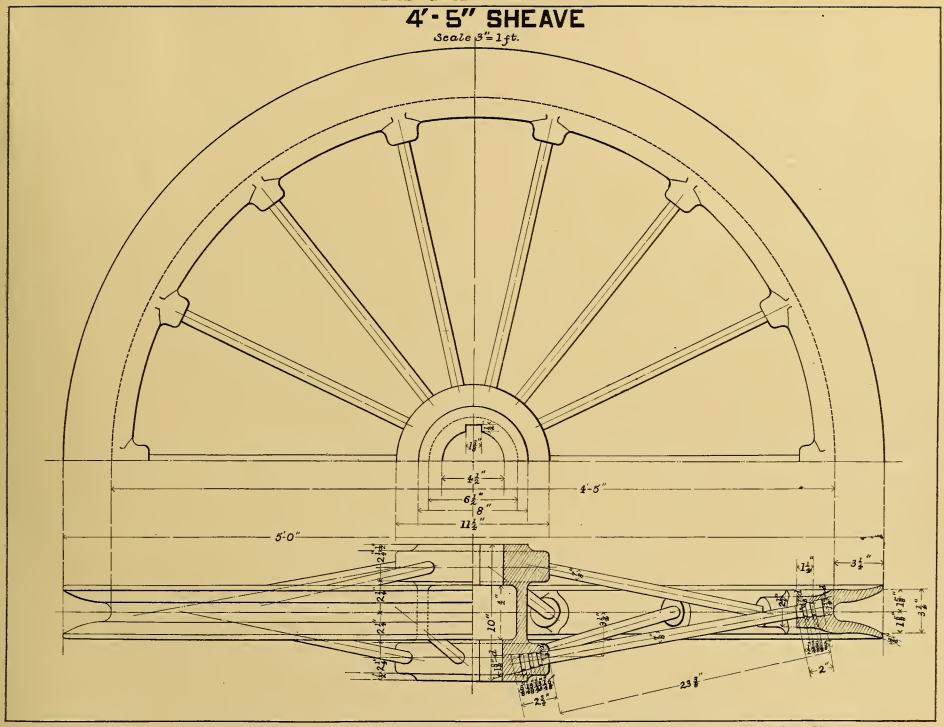


JAN. 9. 1894.

ROBT HALLUM. CLASS. No 80

Photograph of Plate Drawn by R. Hallum, M. 80, Hoisting Engineer, Age 22, Desloge, Mo.

PLATE XII.



SEPT 30 1894

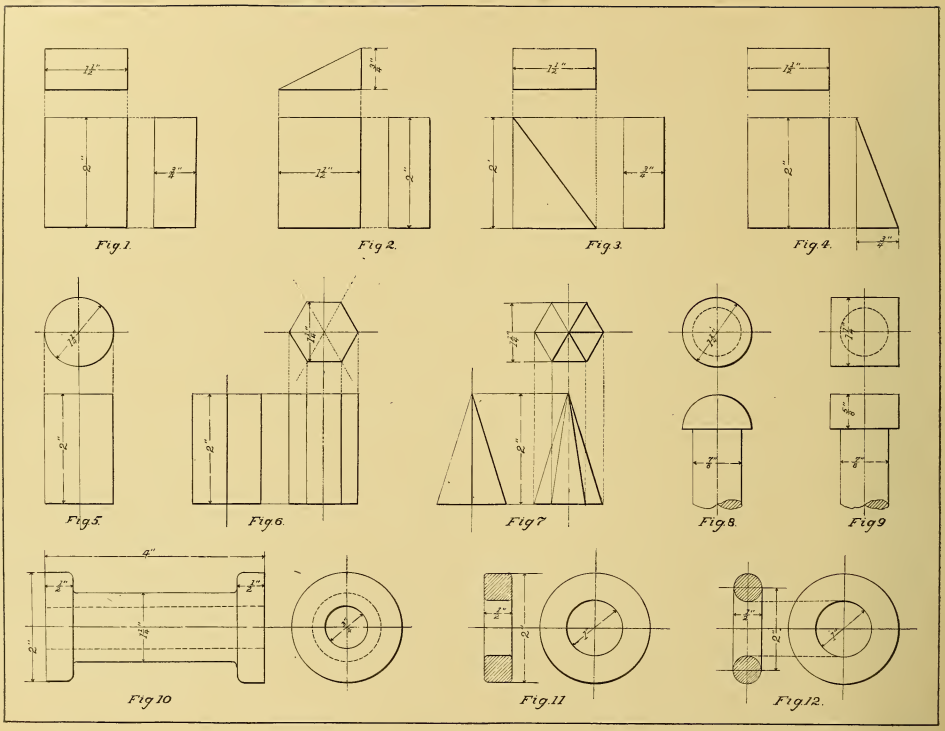
ROBT HALLUM CLASS NO 80

Photograph of Plate Drawn by R. Hallum, M. 80, Hoisting Engineer, Age 22, Desloge, Mo.

PART II

ARCHITECTURAL AND MECHANICAL DRAWING, AND MAPPING

PLATE VI



APRIL 14, 1896.

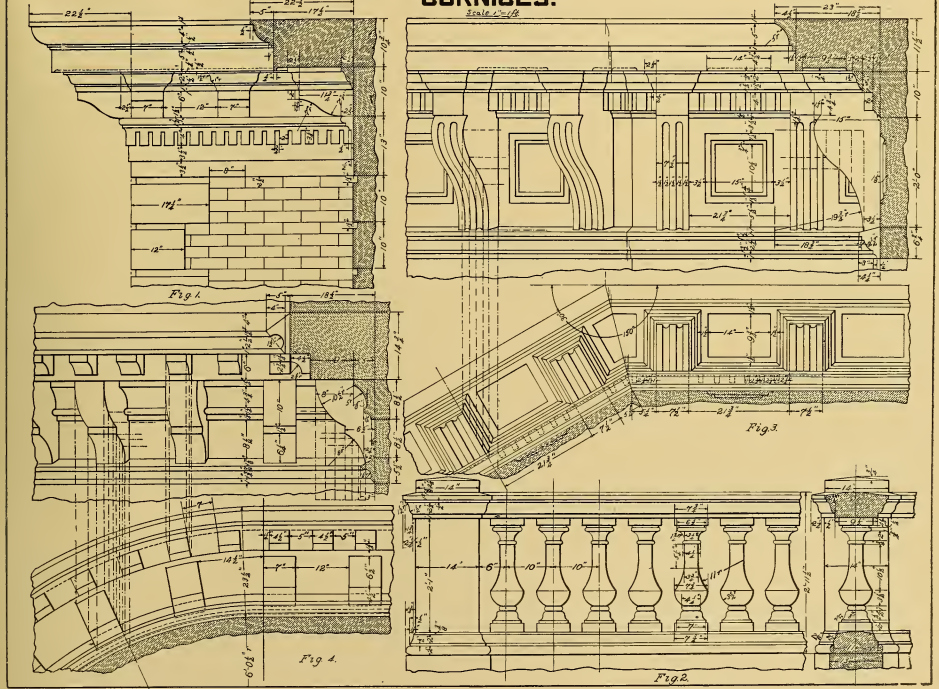
Photograph of Plate Drawn by Wm. Huber, A. 389, Jeweler, Age 23,
584 Third Avenue, New York City.

WM. HUBER, CLASS No. 389.

PLATE XIII.

CORNICES.

Scale 1" = 1 ft.

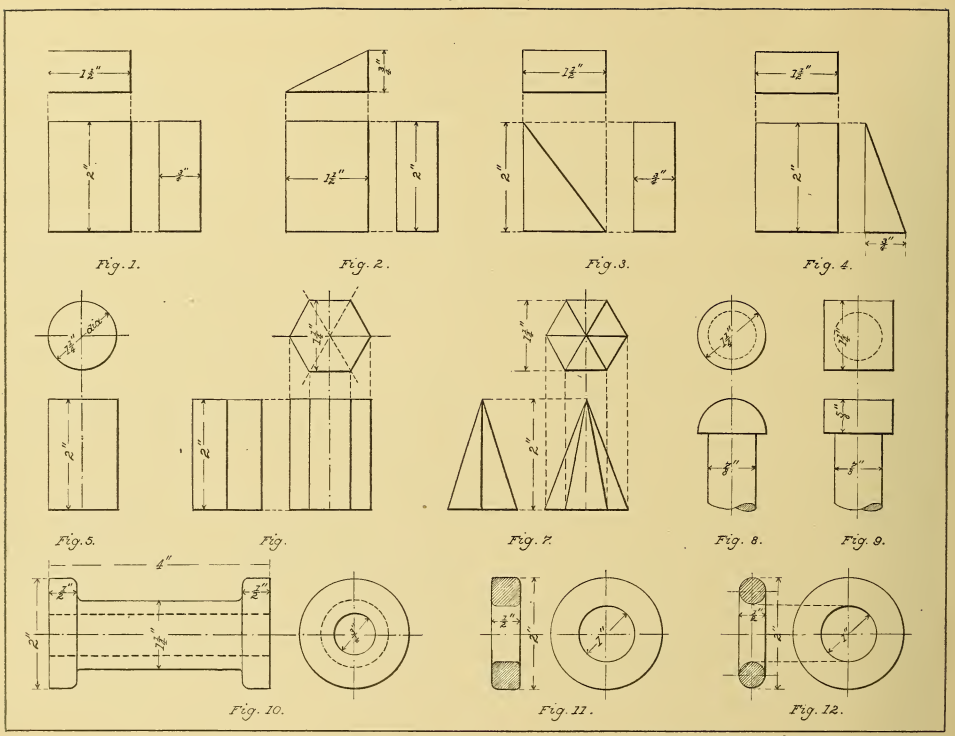


MAY 3, 1897

Wm HUBER, CLASS No A 389.

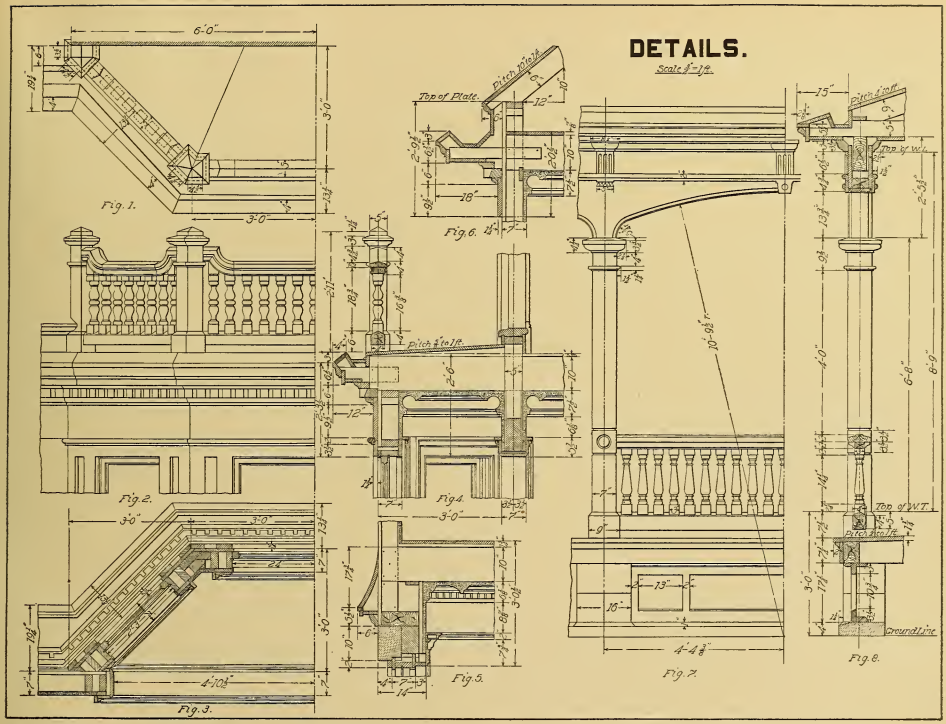
Photograph of Plate Drawn by Wm. Huber, A. 389, Jeweler, Age 23,
584 Third Avenue, New York City.

PLATE. VI.



APRIL, 16, 1896. EMIL, GUNTHER. CLASS № 204.

Photograph of Plate Drawn by E. Gunther, A. 204, Tin and Sheet Iron Worker, Age 19,
3 West Montgomery Street, Baltimore, Md.



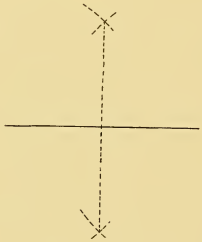
APRIL. 9 1897.

E. GUNTHER. CLASS No. A 204.

Photograph of Plate Drawn by E. Gunther, A. 204, Tin and Sheet Iron Worker, Age 19, 3 West Montgomery Street, Baltimore, Md.

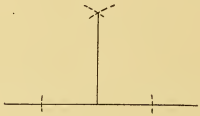
PLATE I.

PROBLEM 1: To bisect a straight line.

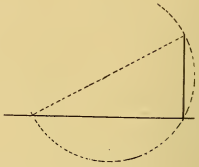


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.



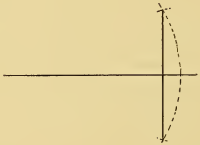
CASE II.



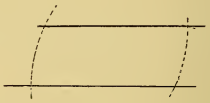
PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

CASE I.

CASE II.



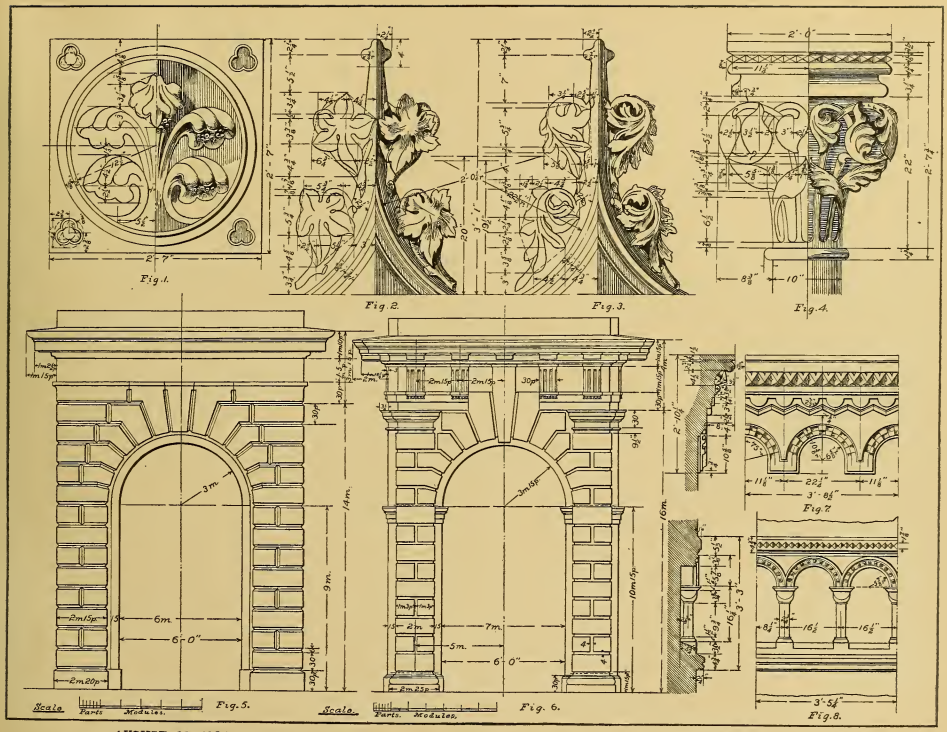
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



APRIL 12. 1895.

HOWARD H. HARKNESS. CLASS No 88. A.

Photograph of Plate Drawn by H. H. Harkness, A. 88, Tel. Operator, Age 23,
203 Wildwood Avenue, Salamanca, N. Y.



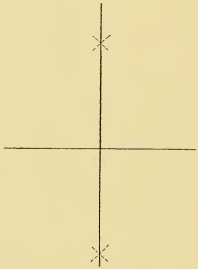
AUGUST 28, 1896.

H.H.HARKNESS CLASS No A-88.

Photograph of Plate Drawn by H. H. Harkness, A. 88, Tel. Operator, Age 23,
203 Wildwood Avenue, Salamanca, N. Y.

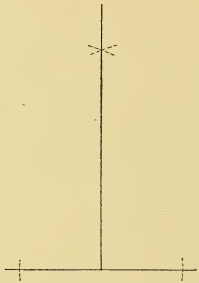
PLATE I.

PROBLEM 1. – To bisect a straight line.

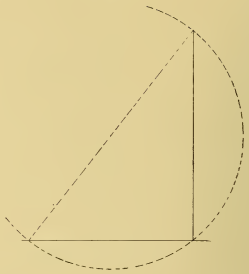


PROBLEM 2. – To draw a perpendicular to a straight line from a given point in that line.

CASE I.

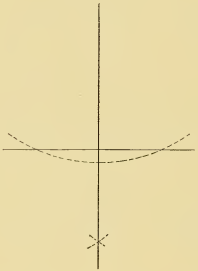


CASE II.

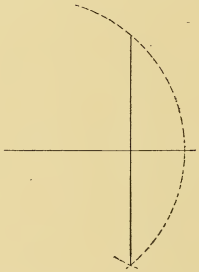


PROBLEM 3. – To draw a perpendicular to a straight line from a point without it.

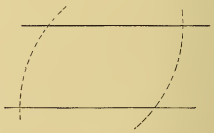
CASE I.



CASE II.



PROBLEM 4. – Through a given point to draw a straight line parallel to a given straight line.

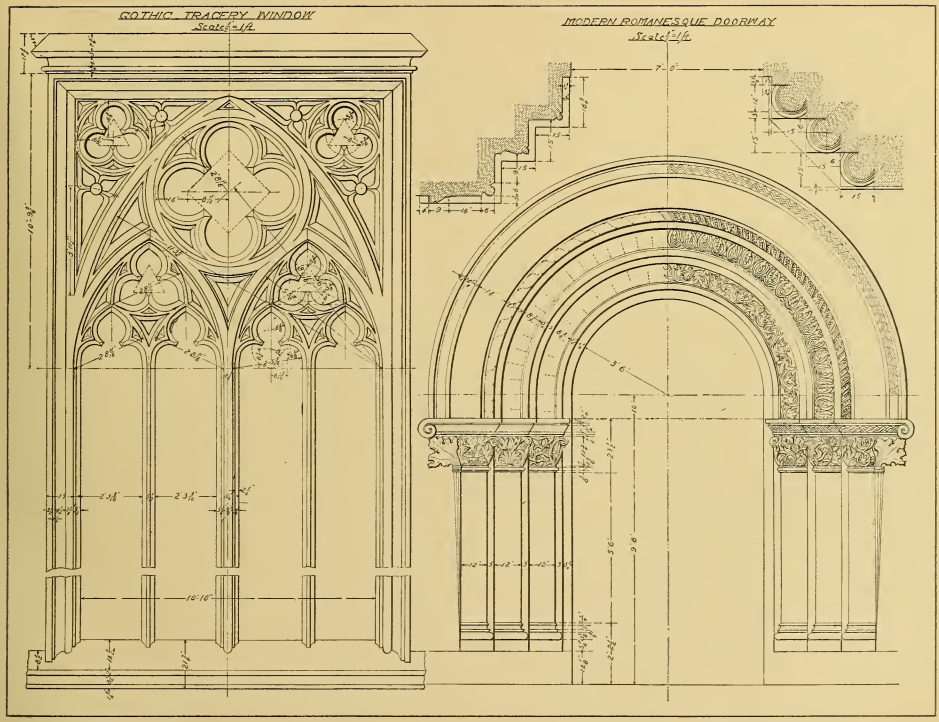


JANUARY 12, 1897.

C. R. HUNTER. CLASS No. III.

Photograph of Plate Drawn by C. R. Hunter, A. 711, Lather, Age 24, 46 Archbald Street, Carbondale, Pa.

PLATE III.



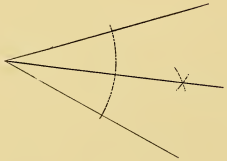
OCTOBER 19 1897

C.R.HUNTER CLASS No. A 711

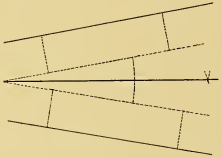
Photograph of Plate Drawn by C. R. Hunter, A. 711, Lather, Age 24,
46 Archbald Street, Carbondale, Pa.

PLATE II.

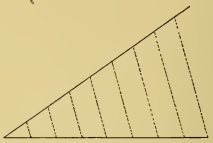
PROBLEM 5: To bisect a given angle. CASE I.



PROBLEM 5: To bisect a given angle. CASE II.

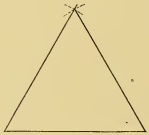


PROBLEM 6: To deride a given straight line into any required number of equal parts.

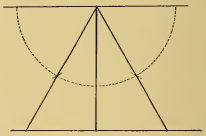


PROBLEM 7: To draw a straight line through any given point on a given straight line to make any required angle with that line.

PROBLEM 8: To draw an equilateral triangle one side being given.



PROBLEM 9: The altitude of an equilateral triangle being given, to draw the triangle.

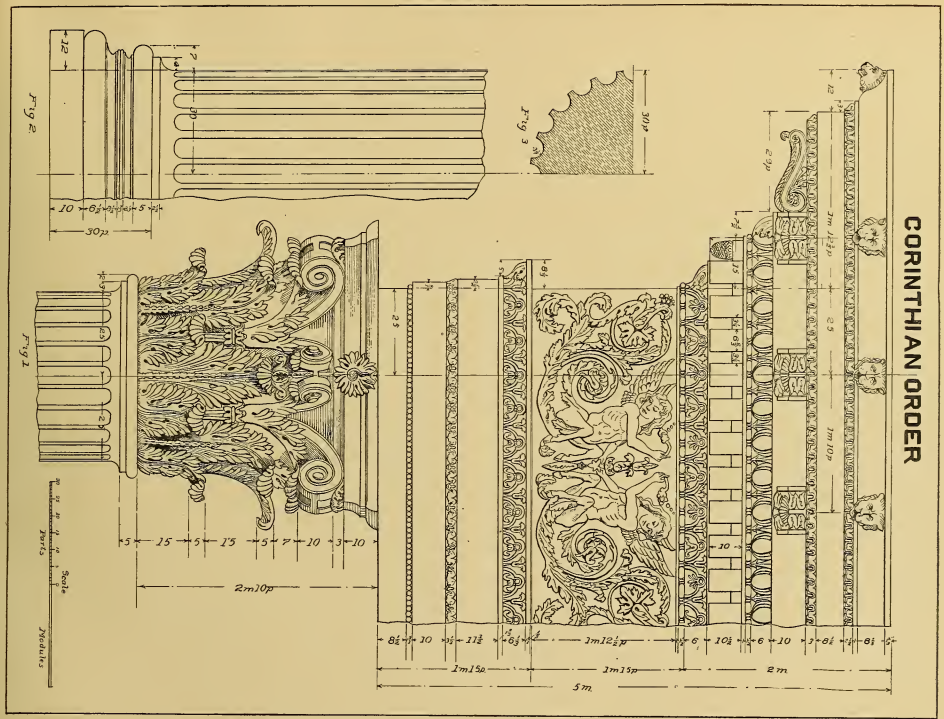


AUG. 11 1896.

LYLE H. OLSON CLASS No A 687

Photograph of Plate Drawn by Lyle H. Olson, A. 687, Draper, Age 21,
1200 Pabst Building, Milwaukee, Wis.

PLATE VIII.



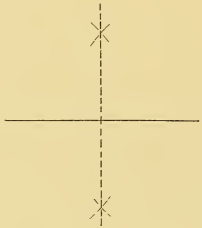
SEPT. 23 1892

LYLE H. OLSON CLASS A 687

Photograph of Plate Drawn by Lyle H. Olsen, A. 687, Draper, Age 21,
1200 Pabst Building, Milwaukee, Wis.

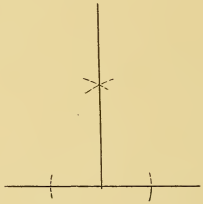
PLATE I.

PROBLEM 1: To bisect a straight line

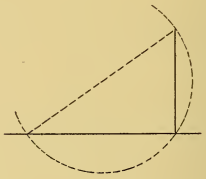


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line

CASE I.

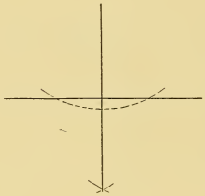


CASE II.

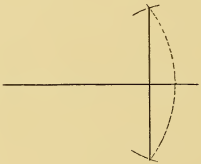


PROBLEM 3: To draw a perpendicular to a stright line from a point without it

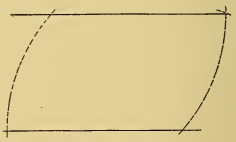
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

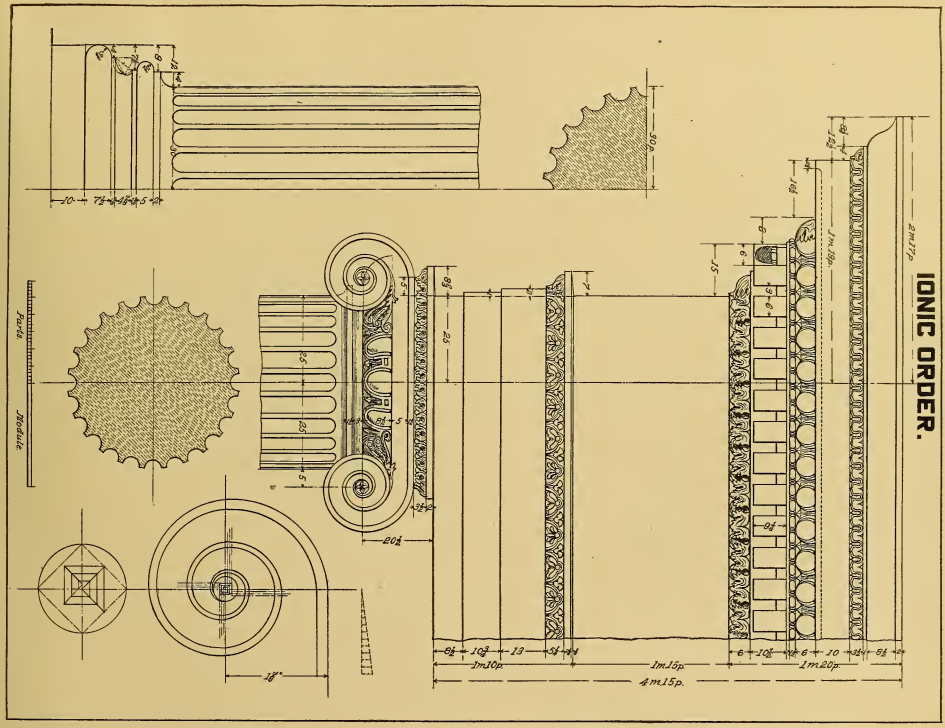


MARCH 17, 1896.

FREDERICK A PATTERSON. CLASS NO 327.

Photograph of Plate Drawn by Frederick A. Patterson, A. 327, Wood Worker, Age 28,
359 Main Street, Bangor, Maine.

PLATE VII.



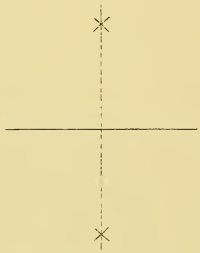
OCT 18 1897

FREDERICK A. PATTERSON CLASS No. A 327.

Photograph of Plate Drawn by Frederick A. Patterson, A. 227, Wood Worker, Age 28,
359 Main Street, Bangor, Maine.

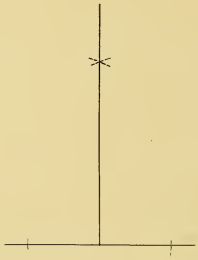
PLATE I.

PROBLEM 1: To bisect a straight line.

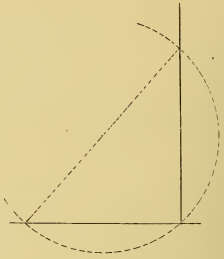


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

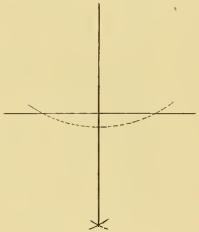


CASE II.

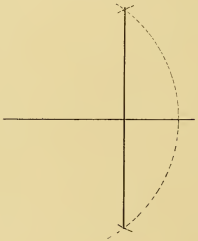


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

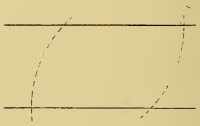
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

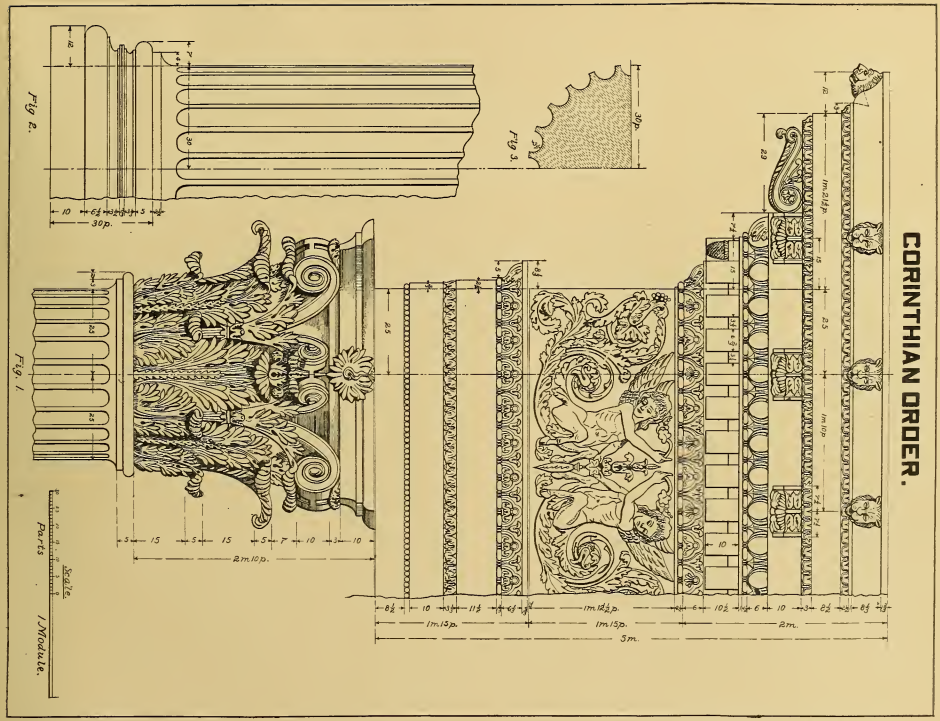


APRIL 19. 1895.

W.J.STEWART CLASS No A 136.

Photograph of Plate Drawn by W. J. Stewart, Jr., A. 138, Carpenter, Age 23, Box 21, Sewickley, Pa.

PLATE VIII.



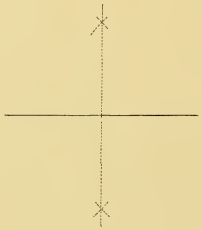
JUNE 16, 1897.

W.J.STEWART CLASS A Nº 138.

Photograph of Plate Drawn by W. J. Stewart, Jr., A. 138. Carpenter. Age 23,
Box 21, Sewickley, Pa.

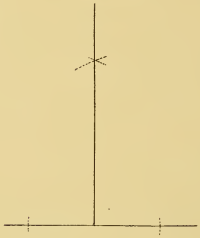
PLATE I.

PROBLEM 1: To bisect a straight line.

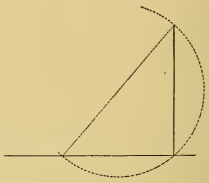


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

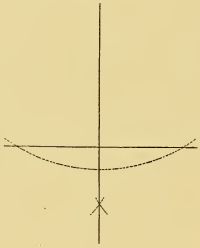


CASE II.

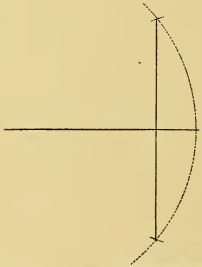


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

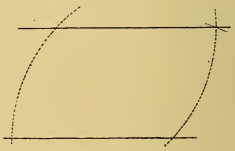
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

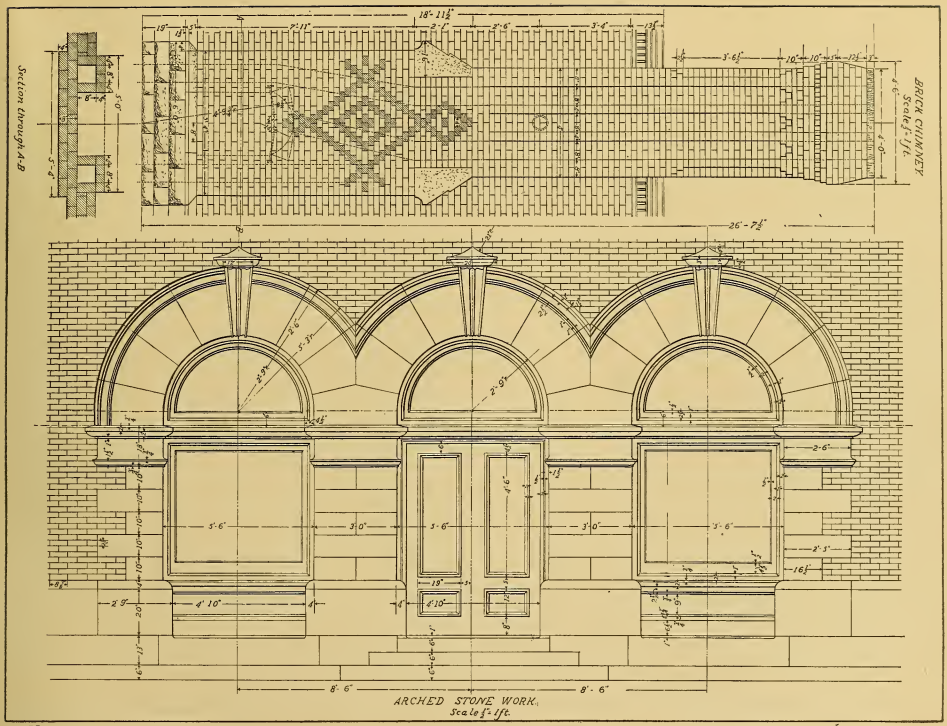


Aug. 1, 1896.

Lena Beecher, Class Letter and No. A.D. 114.

Photograph of Plate Drawn by Miss E. Lena Beecher, A. D. 114, Stenographer, Age 24, 3 Front Street, Owego, N. Y.

PLATE III.



APR. 14 1897.

LENA BEECHER, CLASS No. A D 114.

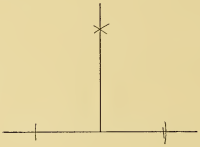
Photograph of Plate Drawn by Miss E. Lena Beecher, A. D. 114, Stenographer, Age 24, 3 Front Street, Owego, N. Y.

PLATE I.

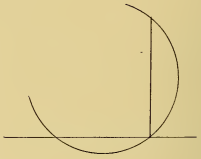
PROBLEM 1. To bisect a straight line

PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

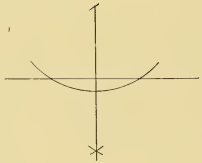


CASE II

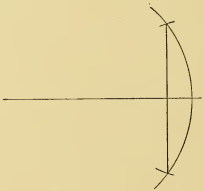


PROBLEM 3. To draw a perpendicular To a straight line from a point without it.

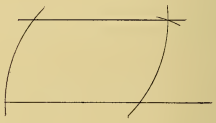
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

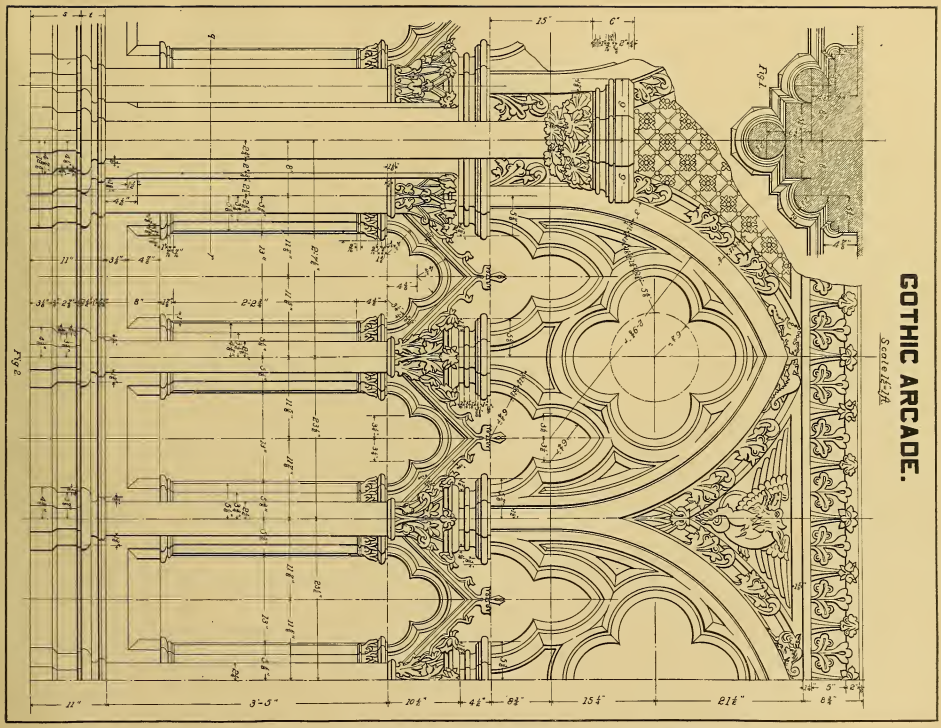


OCT. 19, 1895.

FRANK M. BOSLER, CLASS No AD 57.

Photograph of Plate Drawn by Frank M. Bosler, A. D. 57, Age 22,
222 London Street, Urbana, Ohio.

PLATE V



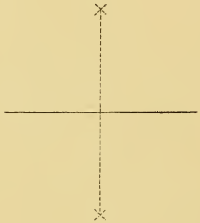
FEB. 8.1897

F.M.BOSLER CLASS No. AD 57

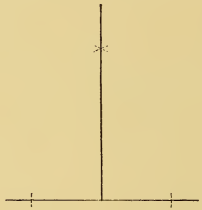
Photograph of Plate Drawn by Frank M. Bosler, A. D. 57, Age 22,
222 London Street, Urbana, Ohio.

Plate I.

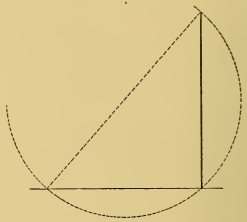
PROBLEM 1: To bisect a straight line.



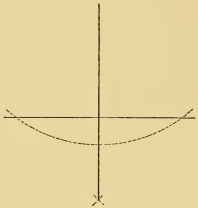
PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.
CASE I.



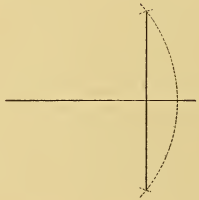
CASE II.



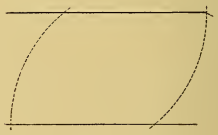
PROBLEM 3: To draw a perpendicular to a straight line, from a given point without it:
CASE I.



CASE II.



PROBLEM 4: Through a given point, to draw a straight line parallel to a given straight line.

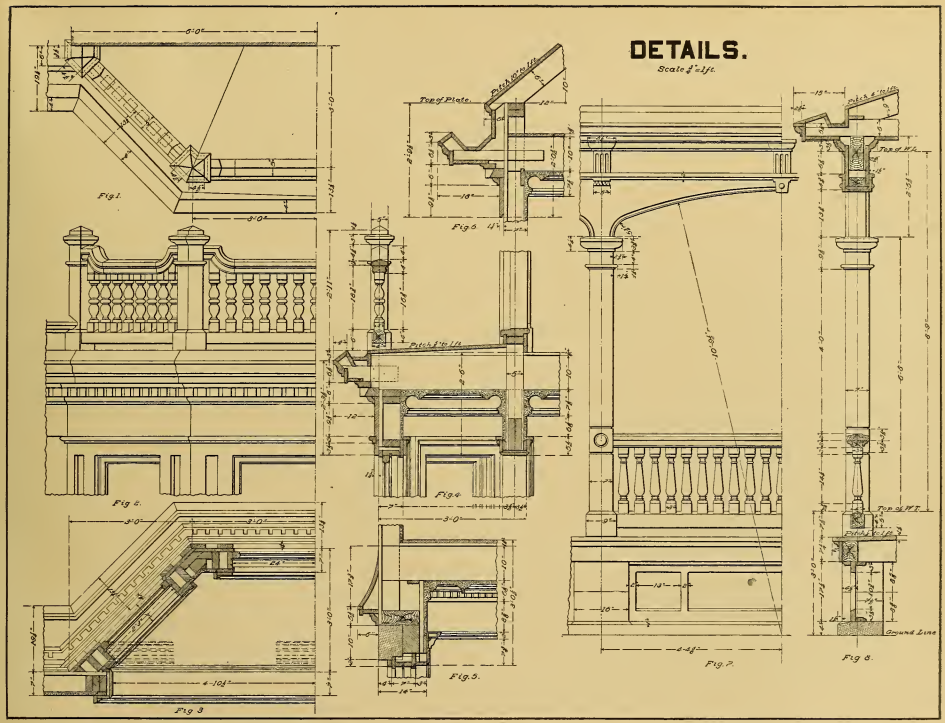


NOV. 23. 1896.

H.H. ANDERSON, CLASS Nº A.D. 146

Photograph of Plate Drawn by H. H. Anderson, A. D. 146. Insurance and Drafting, Age 24,
Monumental Building, Sidney, Ohio.

PLATE X.



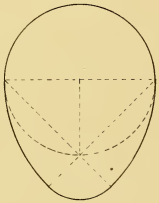
MAY 22, 1897.

H.H. ANDERSON, CLASS No A.D 146.

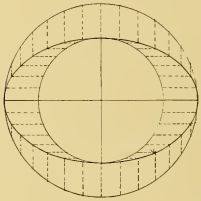
Photograph of Plate Drawn by H. H. Anderson, A. D. 146, Insurance and Drafting, Age 24, Monumental Building, Sidney, Ohio.

PLATE V.

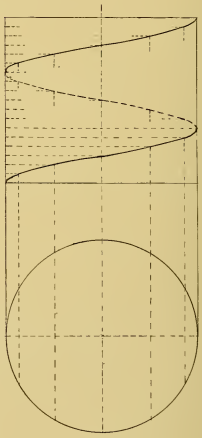
PROBLEM 22. To draw an egg-shaped oval.



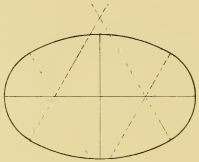
PROBLEM 23. To draw an ellipse, the diameters being given.



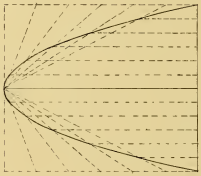
PROBLEM 26. To draw a helix, the pitch and the diameter being given.



PROBLEM 24. To draw an ellipse with circular arcs.



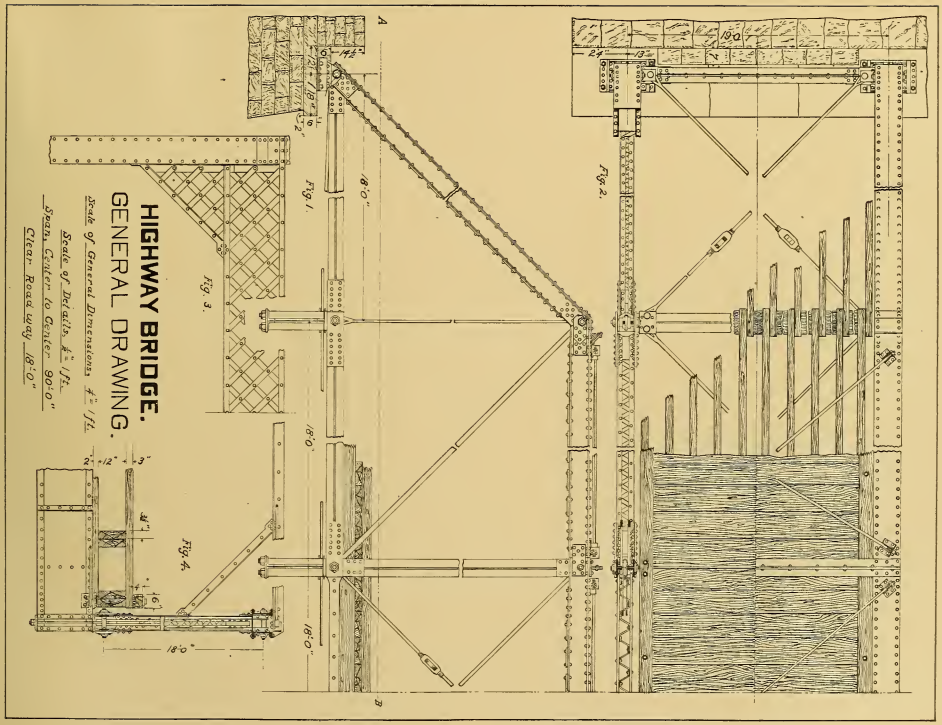
PROBLEM 25. To draw a parabola, the axis and longest double ordinant being given.



APRIL 10. 1897. SAMUEL M. EVANS. CLASE Nº B239.

Photograph of Plate Drawn by S. M. Evans, B. 239, Template-Maker, Age 31, Steelton. Pa.

PLATE XVIII.

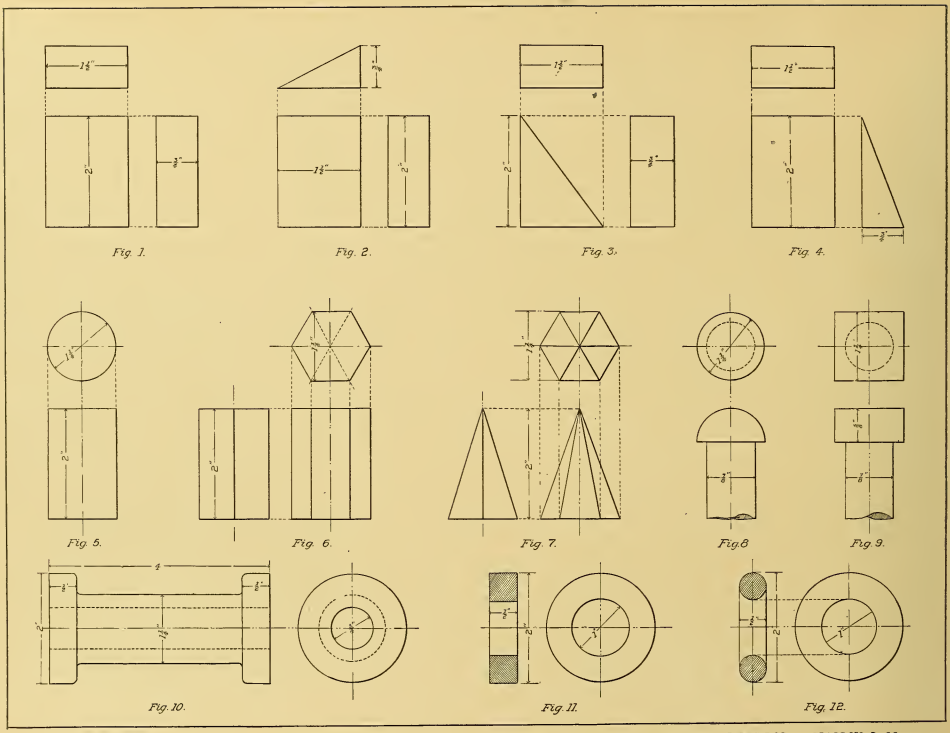


OCT. 25. 1897.

SAMUEL M. EVANS. CLASS Nº B 239.

Photograph of Plate Drawn by S. M. Evans, B. 239, Template-Maker, Age 31, Steelton, Pa.

PLATE VI

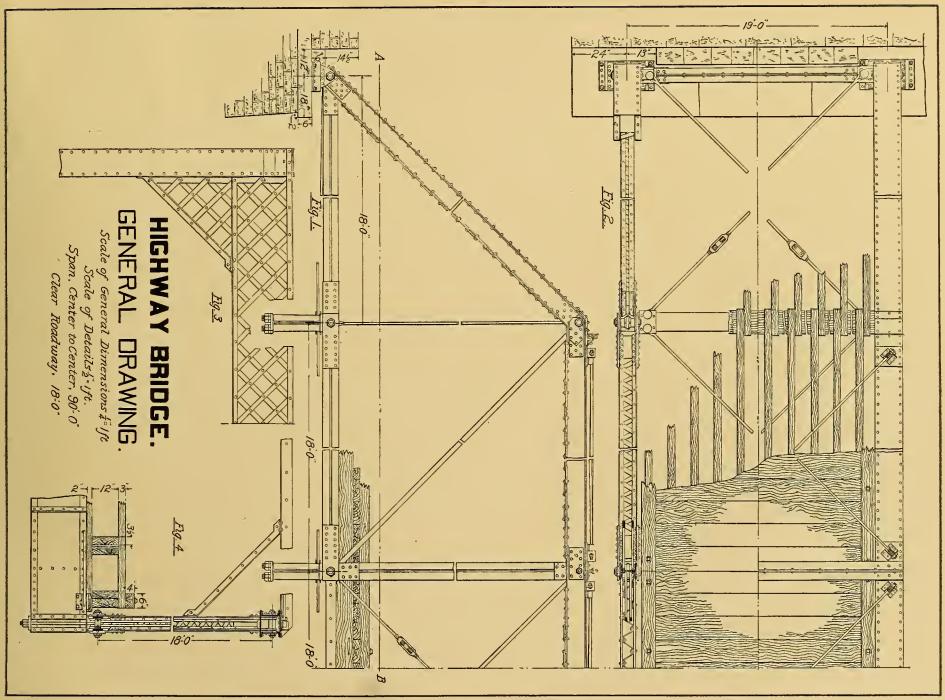


March 18 1897

CHAS. D. BOGGESS CLASS NO. B. 65.

Photograph of Plate Drawn by Chas. D. Boggess, B. 65, Surveyor, Age 27,
Box 466, Ashland, Ky.

PLATE 18.

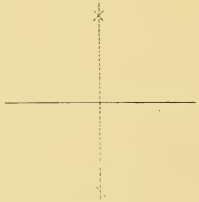


OCTOBER 9. 1897 CHAS D BOGGESS CLASS B.65

Photograph of Plate Drawn by Chas. D. Boggess, B. 65, Surveyor, Age 27, Box 466, Ashland, Ky.

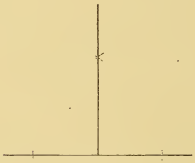
PLATE I

PROBLEM 1: To bisect a straight line.

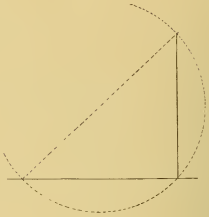


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

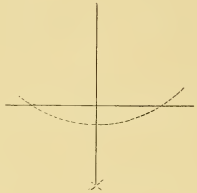


CASE II.

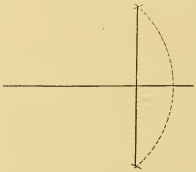


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

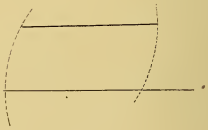
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



Dec. 30 1895

W. A. Clefford. Class No. 131.

Photograph of Plate Drawn by W. A. Clefford, R. 162, Operator, Age 28, Thelma, Ind.

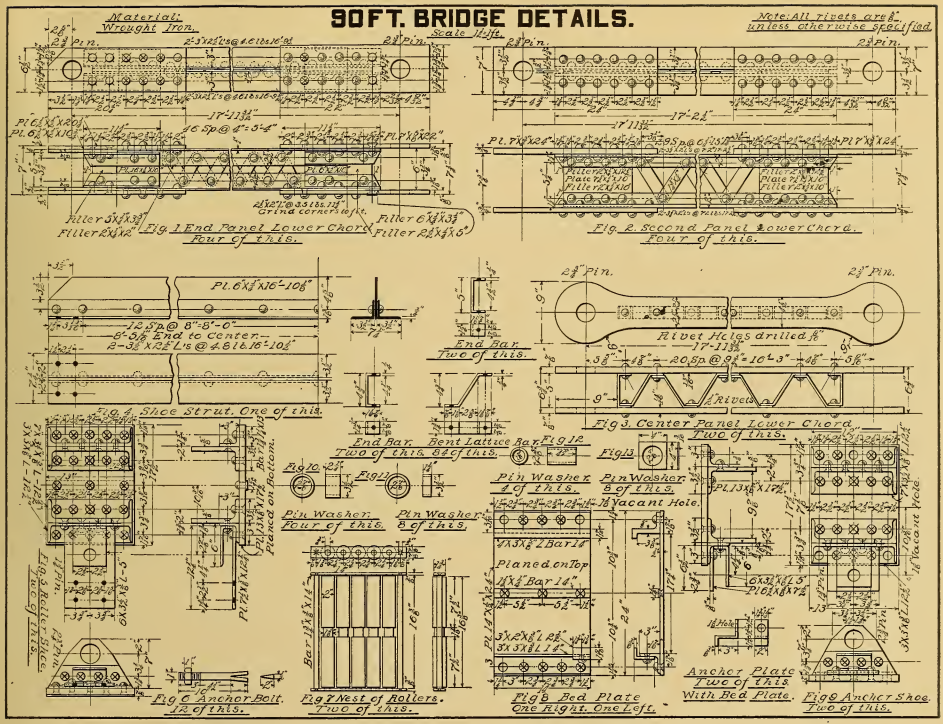
PLATE XVI.

90 FT. BRIDGE DETAILS.

Material: Wrought Iron.

Scale 1½"=1'0"

Note: All rivets are ⅞" unless otherwise specified.

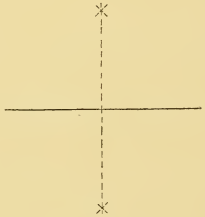


APR. 2. 1896. W. A. CLEFFORD. R.R. 162.

Photograph of Plate Drawn by W. A. Clefford, R. 162, Operator, Age 28, Thelma, Ind.

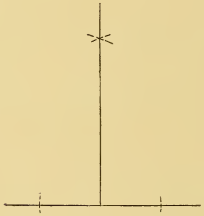
PLATE I.

PROBLEM 1: To bisect a straight line.

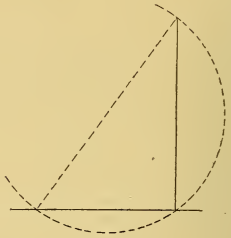


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

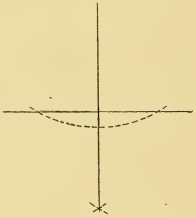


CASE II.

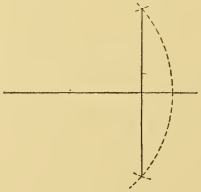


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

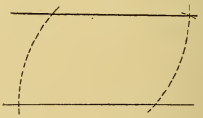
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



FEB. 8. 1895.

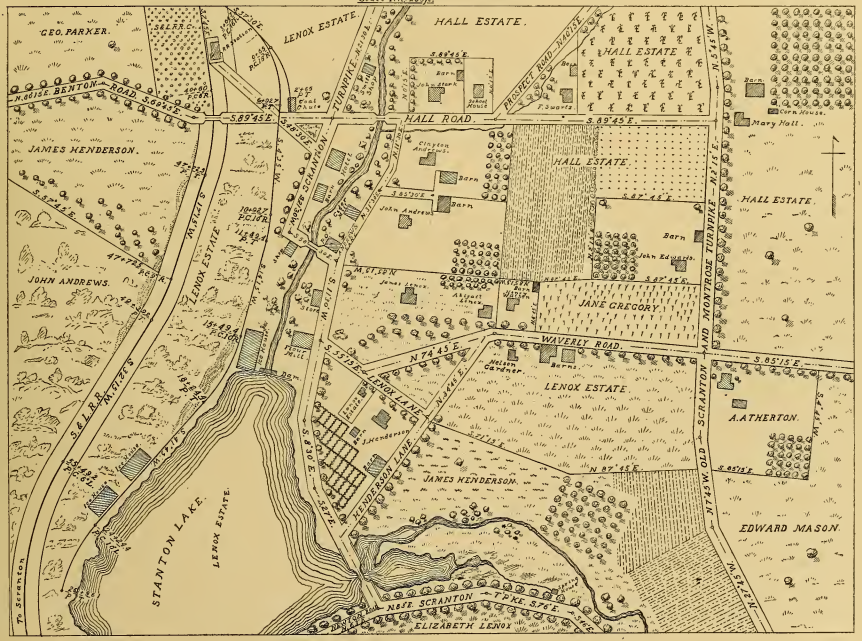
JOHN K. WALKER. CLASS № 16. S.M.

Photograph of Plate Drawn by John K. Walker, S. M. 16, Farmer, Age 38, North Gage, N. Y.

PLATE VI.

MAP OF A VILLAGE.

Scale 1in.=200ft.



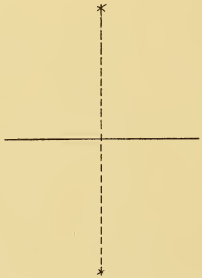
MAR. 17. 1896.

JOHN K. WALKER. No 16 S.M.

Photograph of Plate Drawn by John K. Walker, S. M. 16, Farmer, Age 38,
North Gage, N. Y.

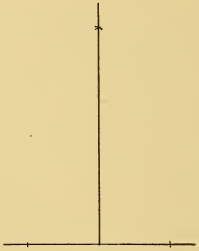
PLATE 1

PROBLEM 1: To bisect a straight line.

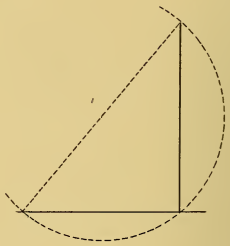


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

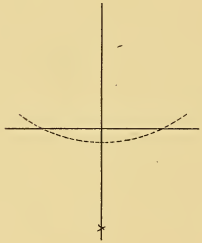


CASE II.

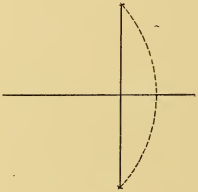


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

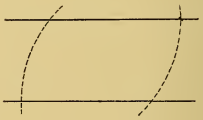
CASE I



CASE II



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

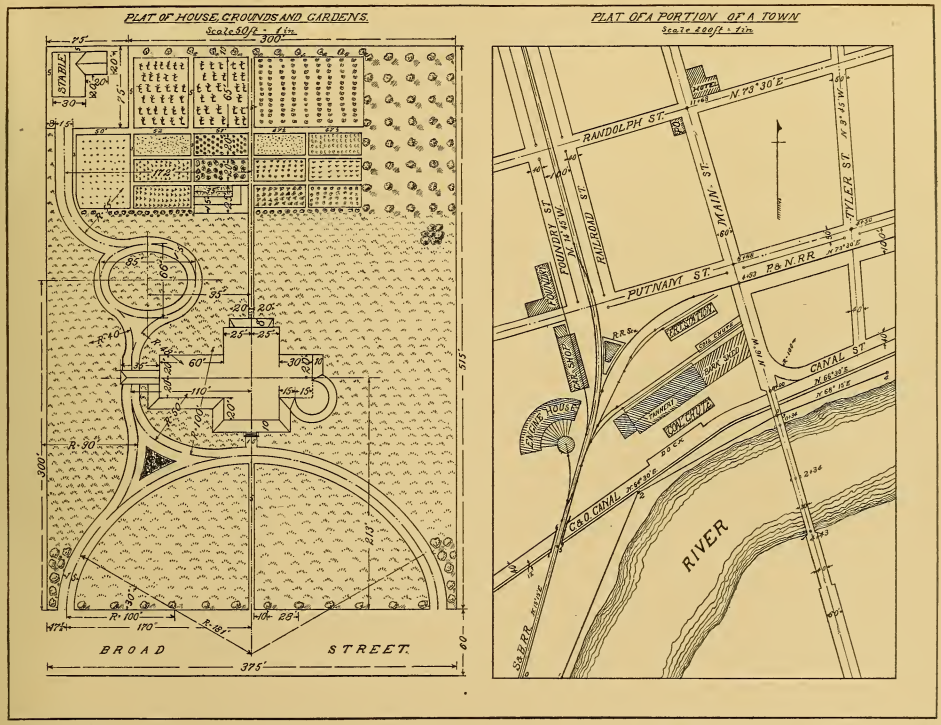


JULY 23 1895

THEO. SCHIFFLIN. CLASS No S.M. 23.

Photograph of Plate Drawn by Theo. Schifflin, S. M. 23, Engineer and Soldier, Age 21,
526 West Forty-ninth Street, New York, N. Y.

PLATE V

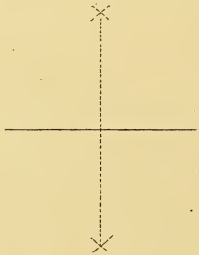


JULY 20 1896 THEO. SCHIFFLIN CLASS No S.M.23

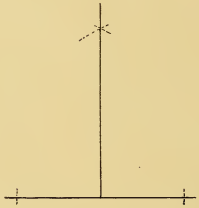
Photograph of Plate Drawn by Theo. Schiffiln, S. M. 23, Engineer and Soldier, Age 24,
526 West Forty-ninth Street, New York, N. Y.

PLATE I.

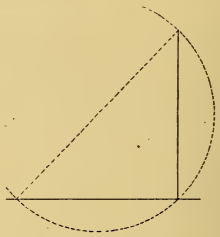
PROBLEM 1: To bisect a straight line.



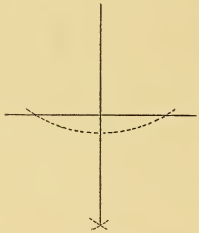
PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line
CASE I.



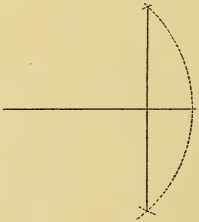
CASE II.



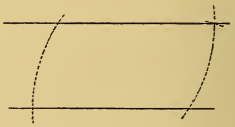
PROBLEM 3: To draw a perpendicular to a straight line from a point without it..
CASE I.



CASE II.



PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



JUNE 7, 1896

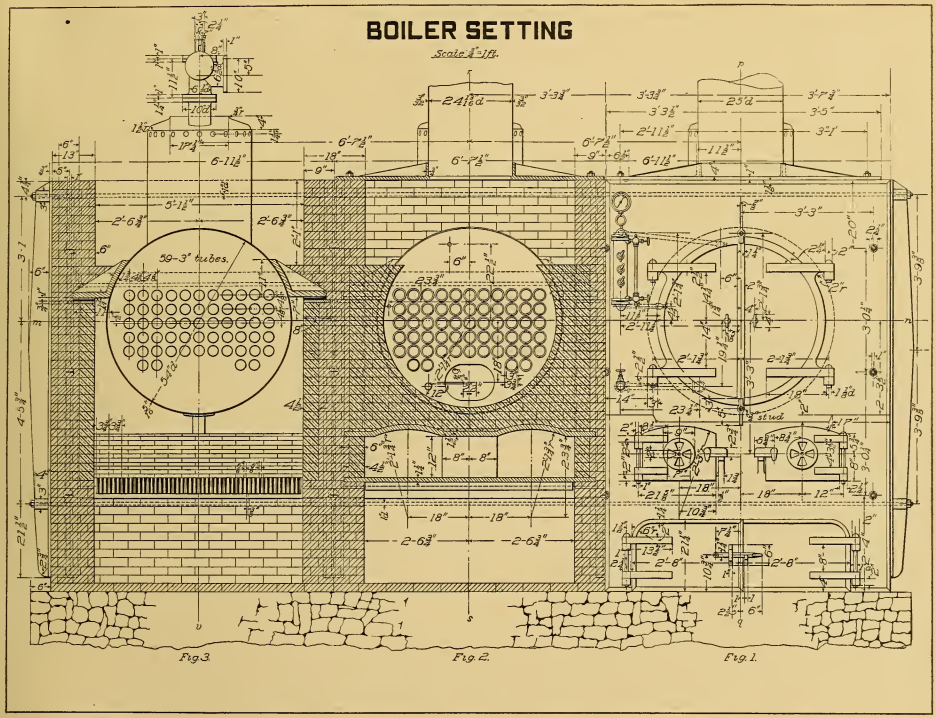
G.A. McDONNELL CLASS NO 2449

Photograph of Plate Drawn by Geo. A. McDonnell, C. 2449, Machinist, Age 22,
Winooski, Vt.

PLATE XXIII.

BOILER SETTING

Scale ¼"=1 ft.



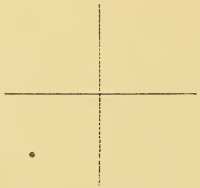
AUG. 18. 1896.

G. A. McDONNELL, CLASS No. C. 2449.

Photograph of Plate Drawn by Geo. A. McDonnell, C. 2449, Machinist, Age 22, Winooski, Vt.

PLATE I.

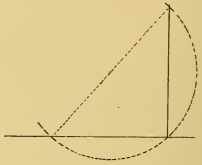
PROBLEM 1. To bisect a straight line.



PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

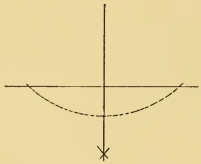
CASE I.

CASE II

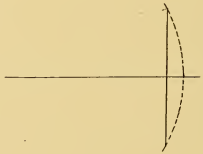


PROBLEM 3: To draw a perpendular to a straight line from a point without it.

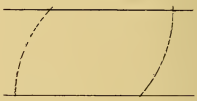
CASE I.



CASE II



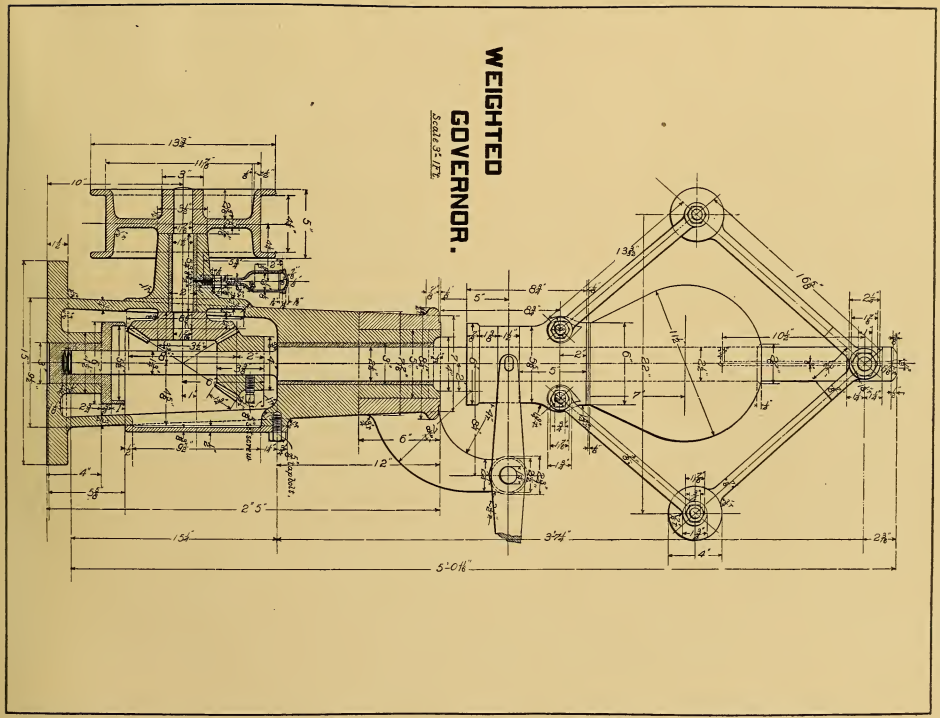
PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.



AUGUST 13, 1895.

THEO. N. GRASER CLASS 7th C. 2551.

Photograph of Plate Drawn by Theo. N. Graser, C. 2551, App. Mach., Age 16,
39 Daughty Street, Dunkirk, N. Y.



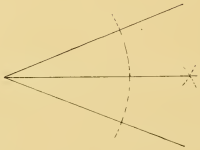
MARCH 6. 1897.

T. N. GRASER. CLASS No C 2551.

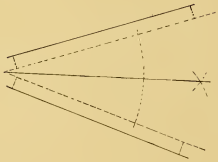
Photograph of Plate Drawn by Theo. N. Graser, C. 2551, App. Mach., Age 16,
39 Daughty Street, Dunkirk, N. Y.

PLATE II

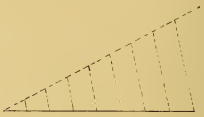
PROBLEM 5 To bisect a given angle: CASE I.



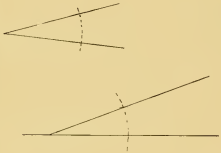
PROBLEM 5. To Bisect a given angle: CASE II



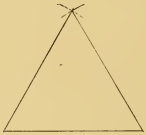
PROBLEM 6. To divide a given straight line into any required number of equal parts:



PROBLEM 7. To draw a straight line through any given point on a given straight line to make any required angle with that line:



PROBLEM 8. To draw a equilateral triangle one side being given:

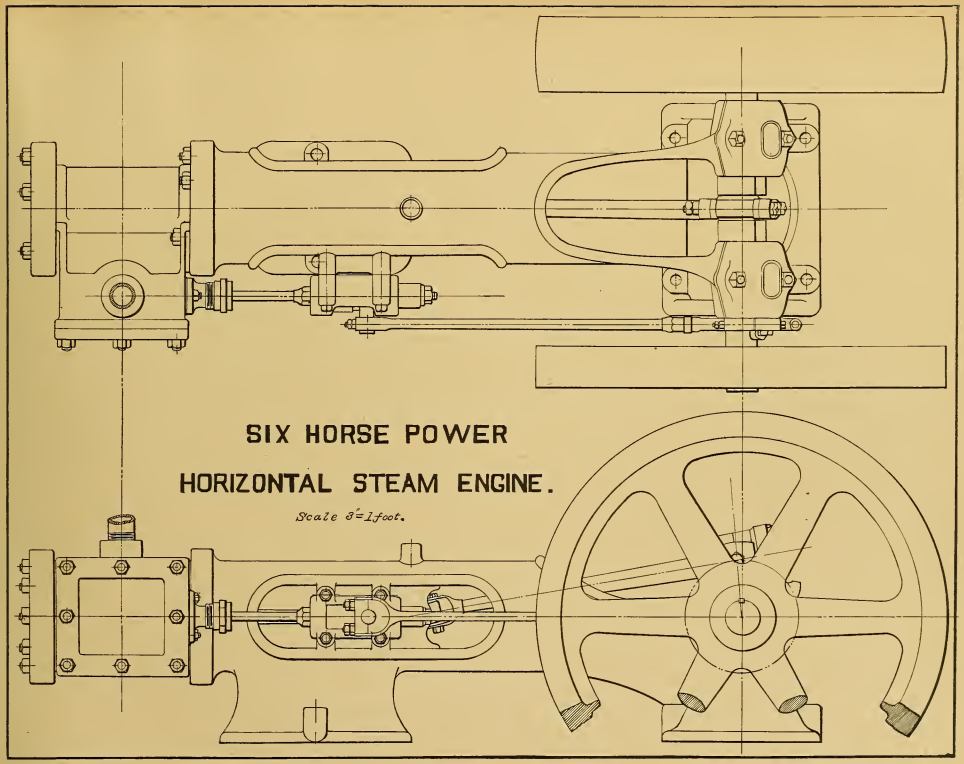


PROBLEM 9. The altitude of an equilateral triangle being given, to draw the triangle:

NOVEMBER 17, 1895

THOMAS THEW. CLASS No C 1231.

Photograph of Plate Drawn by Thomas Thew, C. 1231, Engineer, Age 35,
233 West Pacific Street, Butte, Mont.

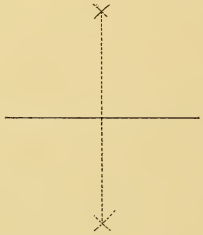


APRIL 22 1897. *T THEW, CLASS N°C 1231.*

Photograph of Plate Drawn by Thomas Thew. C. 1231, Engineer, Age 35,
233 West Pacific Street, Butte, Mont.

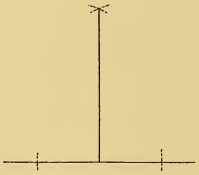
PLATE I.

PROBLEM 1: To bisect a straight line.

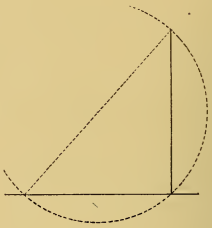


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

CASE I.

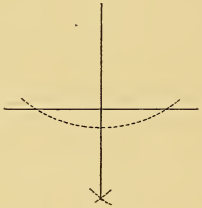


CASE II.

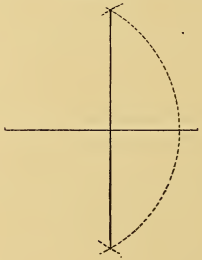


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.

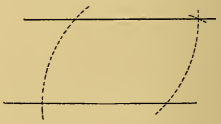
CASE I.



CASE II.



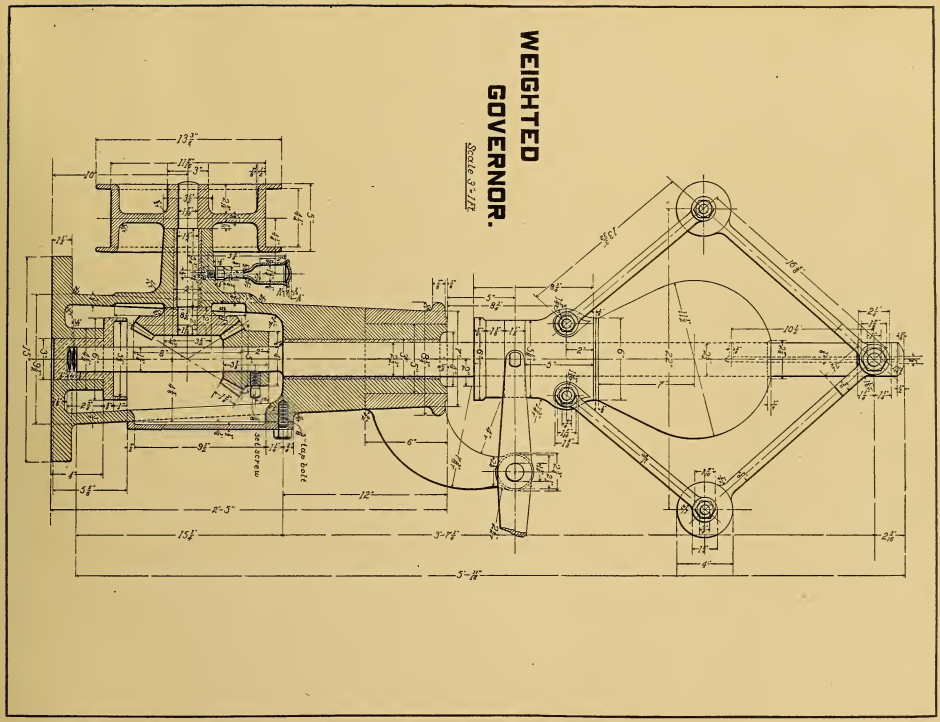
PROBLEM 4: Through a given point to draw a straight line parallel to given straight line.



MAY 9, 1896.

A. O. FOSKETT, CLASS № 636.

Photograph of Plate Drawn by A. O. Foskett, M. D. 636, General Inspector, Age 25, Box 34, Ilion, N. Y.



JULY 17. 1897

A. O. FOSKETT M.D. 636

Photograph of Plate Drawn by A. O. Foskett, M. D. 636, General Inspector, Age 25,
Box 34, Ilion, N. Y.

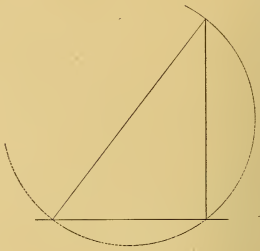
PLATE I

PROBLEM 1: To bisect a straight line.

PROBLEM 2: To draw perpendicular to a straight line from a given point in that line.

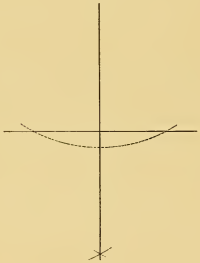
CASE I.

CASE II.

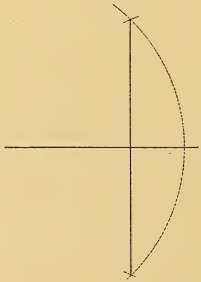


PROBLEM 3: To draw a perpendicular to a straight line from a point without it

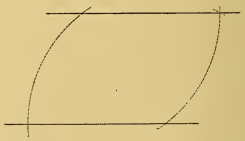
CASE I.



CASE II.



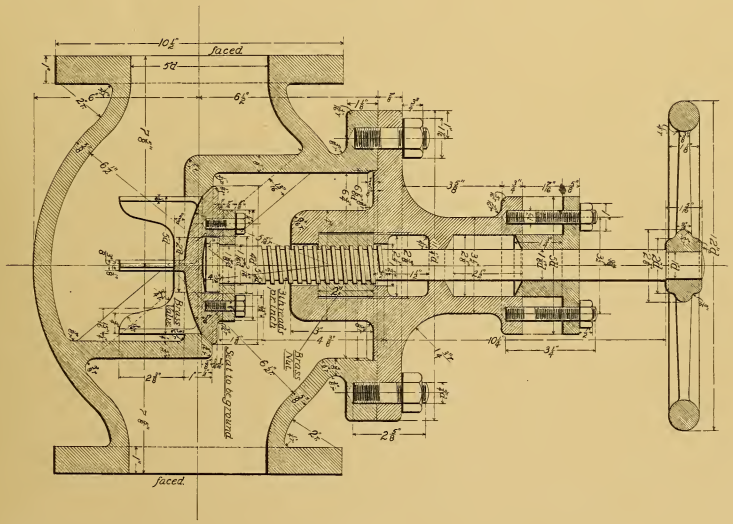
PROBLEM 4. Through a given point to draw a straight line parallel to a given straight line.



FEBRUARY 16, 1897.

LOUIS WINTER, CLASS No MD 856.

Photograph of Plate Drawn by Louis Winter, M. D. 856, Student, Age 19,
900 Center Avenue, Reading, Pa.



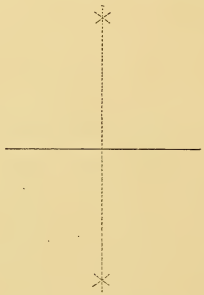
NOV. 2. 1897.

LOUIS WINTER, CLASS No MD. 856.

Photograph of Plate Drawn by Louis Winter, M. D. 856, Student, Age 19,
900 Center Avenue, Reading, Pa.

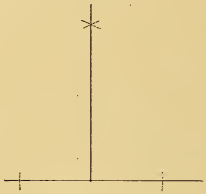
PLATE I.

PROBLEM 1: To bisect a straight line.

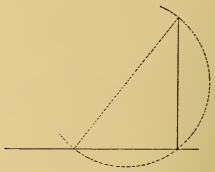


PROBLEM 2: To draw a perpendicular to a straight line from a given point in that line.

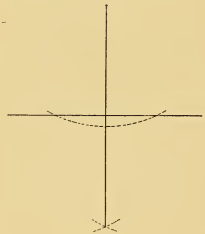
CASE I.

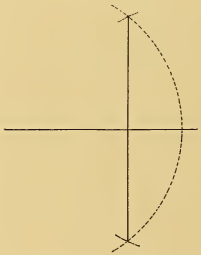


CASE II.

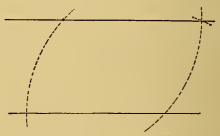


PROBLEM 3: To draw a perpendicular to a straight line from a point without it.





PROBLEM 4: Through a given point to draw a straight line parallel to a given straight line.

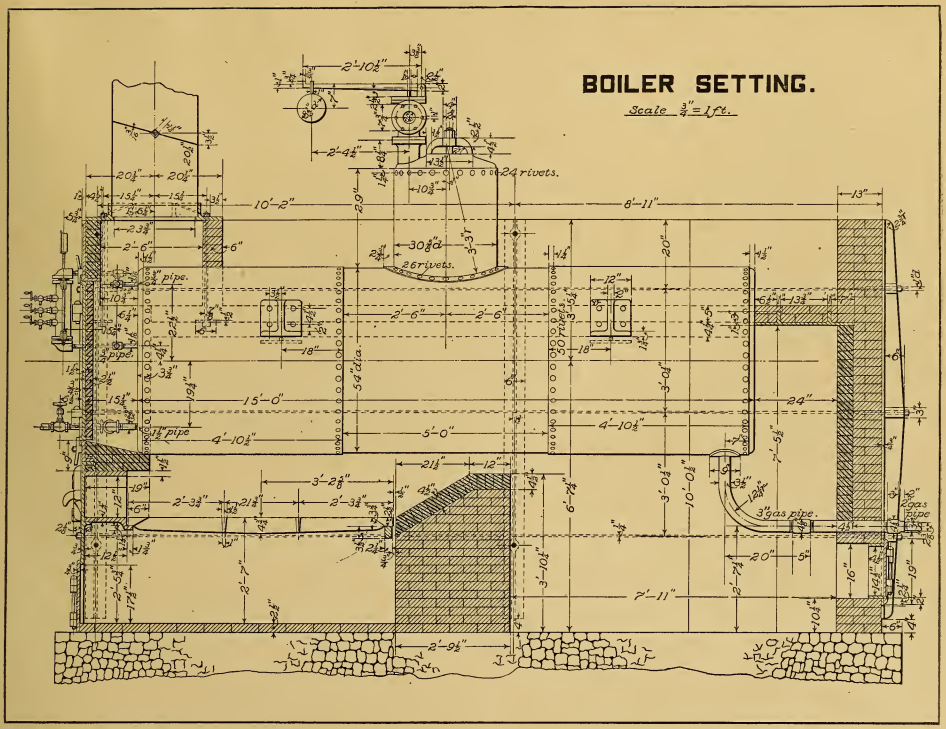


AUGUST 19, 1895.

CHARLES. G. WALLRAFF. CLASS No. 42.

Photograph of Plate Drawn by Chas. G. Wallraff, M. D. 42, Engineer and Machinist,
Age 28, 53 Shepherd Street, Cleveland, Ohio.

PLATE XXIV.



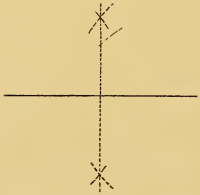
AUGUST 16, 1897.

CHARLES WALLRAFF, CLASS No. 42 M.D.

Photograph of Plate Drawn by Chas. G. Wallraff, M. D. 42, Engineer and Machinist,
Age 28, 53 Shepherd Street, Cleveland, Ohio.

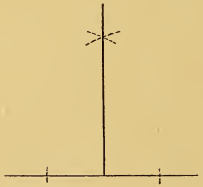
PLATE I.

PROBLEM 1. To bisect a straight line.

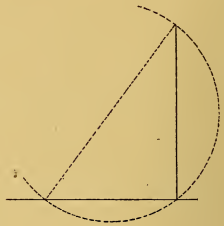


PROBLEM 2. To draw a perpendicular to a straight line from a given point in that line

CASE I.

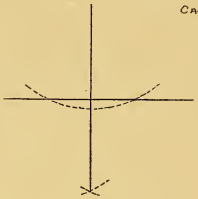


CASE II



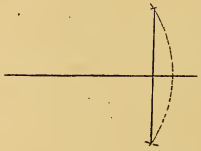
PROBLEM 3. To draw a perpendicular to a straight line from a point without it.

CASE I. CASE 2

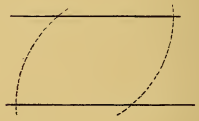


Case 1 Case 2

CASE II.



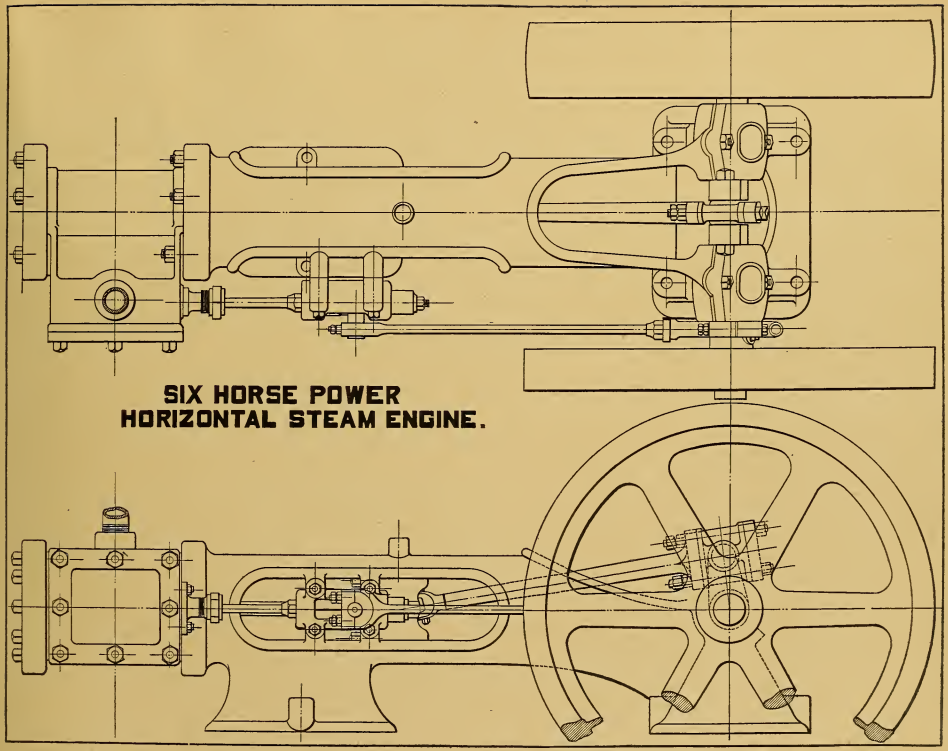
PROBLEM 4. Through a given point to draw a straight line parallel to a given straight line.



JAN. 4th 1897.

FRED G. WARING. CLASS No 1013

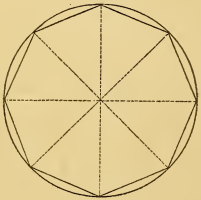
Photograph of Plate Drawn by Fred G. Waring, M. E. 1013, Laborer, Age 17, Box 57, Jermyn, Pa.



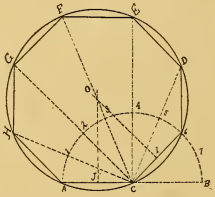
Photograph of Plate Drawn by Fred G. Waring, M. E. 1013, Laborer, Age 17,
Box 57, Jermyn, Pa.

PLATE IV.

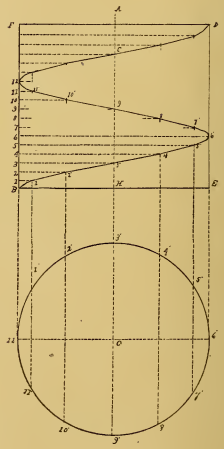
PROBLEM 16 To inscribe a regular octagon in a given circle.



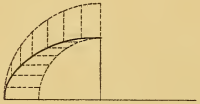
PROBLEM 17 The side of a regular polygon being given to construct the polygon.



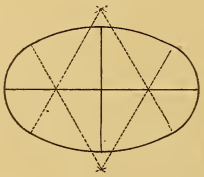
PROBLEM 20 To draw a helix the pitch and the diameter being given.



PROBLEM 18 To draw an ellipse. the diameters being given:



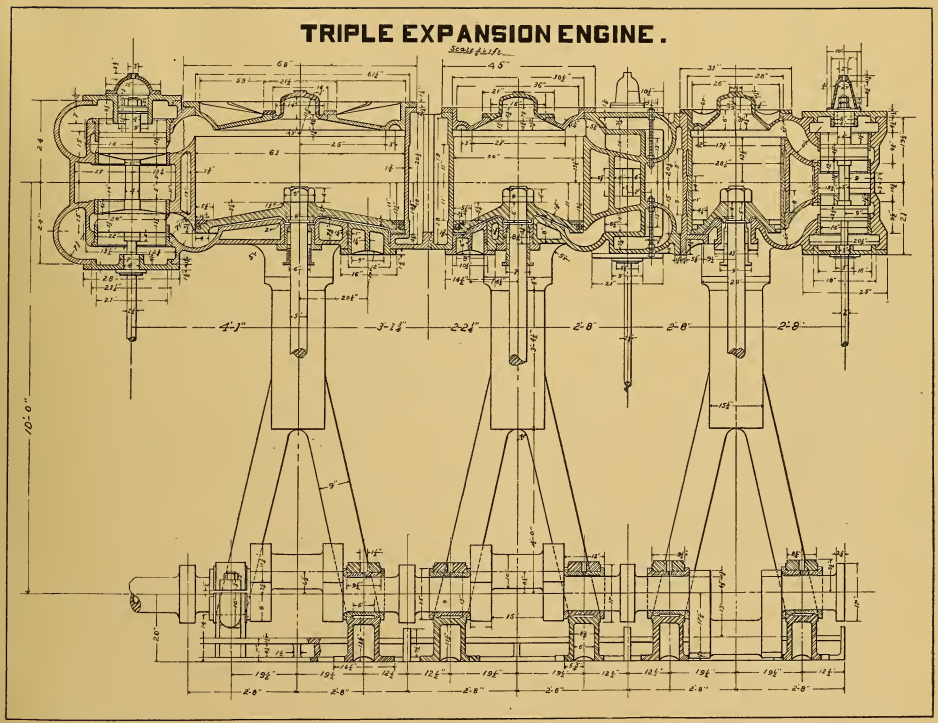
PROBLEM 19 To draw an ellipse with circular arcs:



JAN 15 1897.

C.J.SMITH CLASS H.No 2060.

Photograph of Plate Drawn by C. J. Smith, H. 2060, Boatman, Age 30, Athens, N. Y.

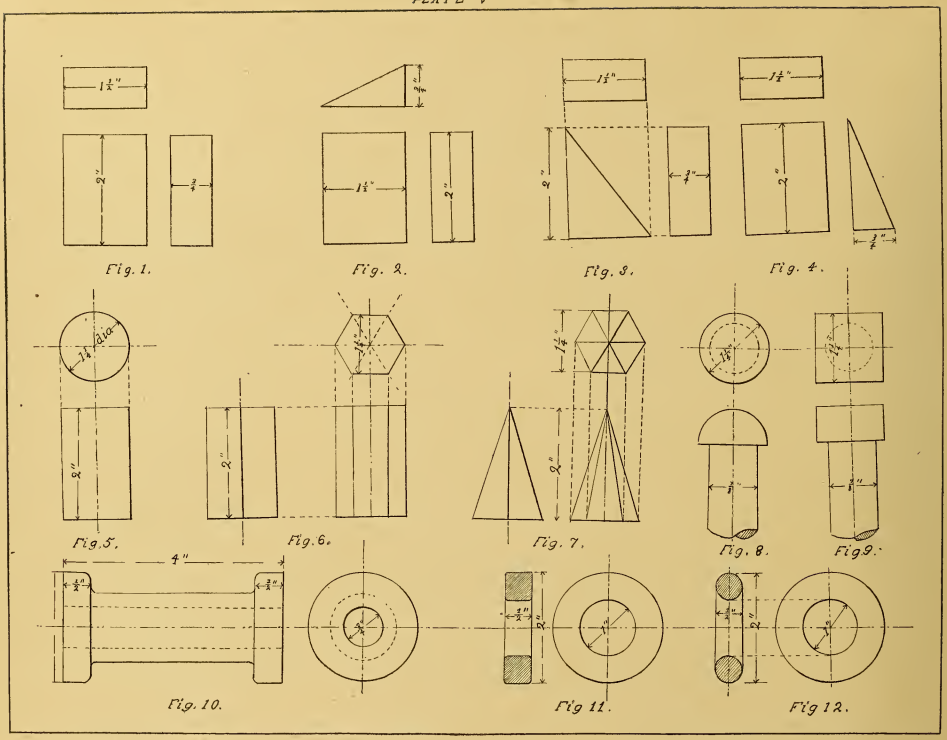


NOVEMBER 3 1897.

C.J.SMITH CLASS No H 2060

Photograph of Plate Drawn by C. J. Smith, H. 2060, Boatman, Age 30, Athens, N. Y.

PLATE V

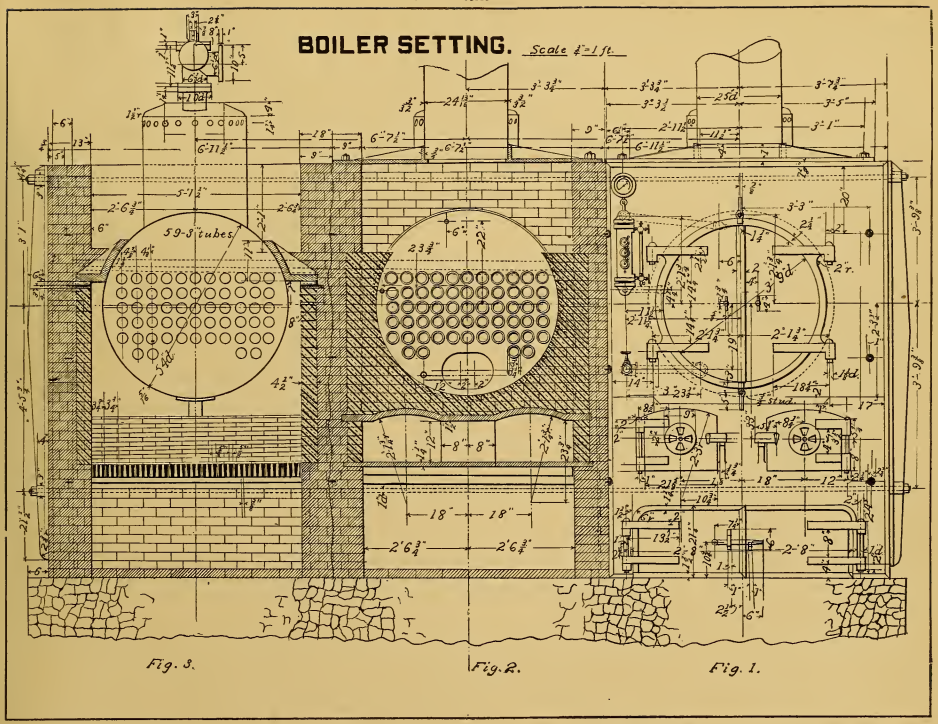


SEPTEMBER 26, 1896.

PETER E. ZINK. CLASS No. 1319.

Photograph of Plate Drawn by Peter E. Zink, H. 1319, Coal Miner, Age 19,
Box 764, Belleville, Ill.

PLATE XIII.



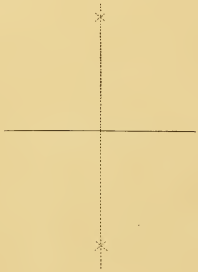
MAY 22. 1897.

PETER ZINK. CLASS N° H. 1319.

Photograph of Plate Drawn by Peter E. Zink, H. 1319, Coal Miner, Age 19,
Box 764, Belleville, Ill.

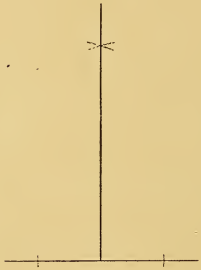
PLATE I.

PROBLEM I. To bisect a straight line

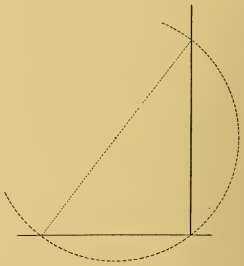


PROBLEM 2. To draw a perpendicular to a straight line from a given point in that line.

CASE I.

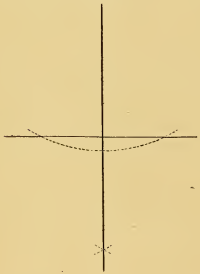


CASE II

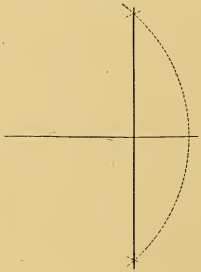


PROBLEM 3. To draw a perpendicular to a straight line from a point without it.

CASE I



CASE II.



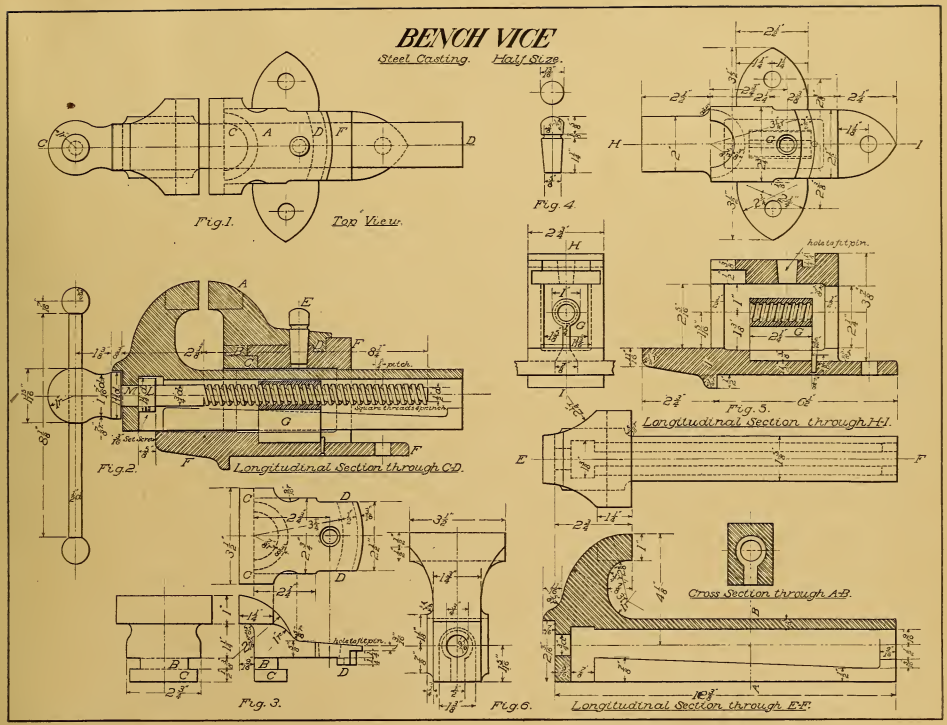
PROBLEM 4. Through a given point to draw a straight line parallel to a given straight line.

MAY 30, 1893.

JAS. GALLACHER, CLASS Nº (F) 160.

Photograph of Plate Drawn by James Gallacher, F. 160, Mine Supt., Age 34, Chickasaw, Ala.

PLATE XV



MARCH 6, 1897.

JAS. GALLACHER, CLASS No F 160.

Photograph of Plate Drawn by James Gallacher, F. 160, Mine Supt., Age 34, Chickasaw, Ala.

May-4. 1901

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